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ABSTRACT

This report is based on efforts by the National Center for Education Statistics to collect data on teacher preparation and qualifications using a nationally representative survey of full-time public school teachers whose main teaching assignment is in English/language arts, social studies/social sciences, foreign language, mathematics, or science (or who teach a self-contained classroom). The report includes indicators of preservice and continued learning and examines work environments in which educators teach. Section 1 discusses how teacher quality has been defined and studied and explains the organization of the report. Section 2 discusses preservice learning and teaching assignment (teacher education, teacher certification, and teaching assignment). Section 3 examines continued learning (formal professional development and collaboration with other teachers). Section 4 focuses on supportive work environments. Section 5 discusses teachers' feelings of preparedness. Section 6 presents conclusions. The six appendixes offer survey methodology and data reliability; detailed tables of estimates and tables of standard errors for the 1998 Fast Response Survey System survey; detailed tables of estimates and tables of standard errors for the 1993-94 Schools and Staffing Survey (SASS) study; standard error tables for text tables and figures; 1998 teacher survey on professional development and training fast response survey system Questionnaire; and selected questionnaire items form the 1993-94 SASS teacher questionnaire. (Contains 59 references.) (SM)

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Statistical Analysis Report January 1999

Teacher Quality: A Report on the Preparation and Qualifications of Public School Teachers

FRSS
Fast Response Survey System

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Executive Summary

Background

In his 1997 State of the Union Address, President Clinton issued a "Call to Action" that included as a priority improving the quality of teachers in every American classroom. President Clinton's speech reflects growing concern over the condition of education and the nation's need for excellent teachers. The nation's educational system must provide our children with the knowledge, information, and skills needed to compete in a complex international marketplace. Good teachers are the hallmark of such an educational system; they are integral to children's intellectual and social development.

In response to these concerns and expectations, this study, undertaken by the National Center for Education Statistics (NCES), using its Fast Response Survey System (FRSS), provides a profile of the quality of the nation's teachers. Providing such a profile is not an easy task. Teacher quality is a complex phenomenon, and there is little consensus on what it is or how to measure it. For example, definitions range from those that focus on what should be taught and how knowledge should be imparted to the kinds of knowledge and training teachers should possess. There are, however, two broad elements that most observers agree characterize teacher quality: (1) teacher preparation and qualifications, and (2) teaching practices. The first refers to preservice learning (e.g., postsecondary education, certification) and continued learning (e.g., professional development, mentoring). The second refers to the actual behaviors and practices that teachers exhibit in their classrooms (U.S. Department of Education, 1996a). Of course, these elements of teacher quality are not independent; excellent teacher preparation and qualifications should lead to exemplary teaching behaviors and practices.

This FRSS report is based on current NCES efforts to collect data on the first of these elements (i.e., teacher preparation and qualifications), using a nationally representative survey of full-time public school teachers whose main teaching assignment is in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who teach a self-contained classroom. Specifically, it includes indicators of preservice and continued learning (e.g., degrees held, certification, teaching assignment, professional development opportunities, and collaboration with other teachers). In addition, because schools and communities play an important role in shaping and maintaining high-quality teachers, this study examines the work environments in which educators teach (e.g., formal induction procedures for new teachers, parental support).

This report is timely in light of recent concerns over the quality of our educational system and our teachers. Teachers' professional preparation (as well as their working conditions) has been identified as fundamental to improving elementary and secondary education (National Commission on Teaching and America's Future, 1996). At the core of educational reforms to raise standards, reshape curricula, and restructure the way schools operate is the call to reconceptualize the practice of teaching. Teachers are being asked to learn new methods of teaching, while at the same time they are facing the greater challenges of rapidly increasing technological changes and greater diversity in the classroom.

The FRSS survey indicates that currently less than half of American teachers report feeling "very well prepared" to meet many of these challenges:

- Although many educators and policy analysts consider educational technology a vehicle for transforming education, relatively few teachers reported feeling very well prepared to integrate educational technology into classroom instruction (20 percent).
- While 54 percent of the teachers taught limited English proficient or culturally diverse students, and 71 percent taught students with disabilities, relatively few

teachers who taught these students (about 20 percent) felt very well prepared to meet the needs of these students. Their feelings of preparedness did not differ by teaching experience.

- Only 28 percent of teachers felt very well prepared to use student performance assessment techniques; 41 percent reported feeling very well prepared to implement new teaching methods, and 36 percent reported feeling very well prepared to implement state or district curriculum and performance standards.

This national profile of teacher preparation, qualifications, and work environments provides a context for understanding why many teachers do not report feeling very well prepared to meet many of the challenges they currently face in their classrooms. Key findings are provided in three major areas: (1) preservice learning and teaching assignment; (2) continued learning; and (3) supportive work environment.

Key Findings

Preservice Learning and Teaching Assignment

Growing concern that a number of the nation's teachers are underqualified to teach our children has focused attention on their preservice learning. For example, concern regarding preservice learning has been directed toward teachers' postsecondary degrees—that is, the idea that teachers, particularly secondary teachers, should have an academic major rather than a general education degree (Ravitch, 1998). In addition, certification policies have drawn criticism—specifically, that a growing number of the nation's teachers are entering classrooms with emergency or temporary certification (Riley, 1998). Finally, attention is increasingly directed toward teaching assignments—that is, teachers being assigned to teach subjects that do not match their training or education (U.S. Department of Education, 1996b). Results of the 1998 FRSS survey indicate that:

- Virtually all teachers had a bachelor's degree, and nearly half (45 percent) had a master's degree. More high school teachers had an undergraduate or graduate major in an academic field (66 percent), compared with elementary school teachers (22 percent) and middle school teachers (44 percent).

- Most of the teachers (92 percent and 93 percent, for departmentalized and general elementary, respectively) were fully certified in the field of their main teaching assignment. However, emergency and temporary certification was higher among teachers with 3 or fewer years of experience compared to teachers with more teaching experience. For example, 12 percent of general elementary classroom teachers with 3 or fewer years of experience had emergency or temporary certification, whereas less than 1 percent of general elementary classroom teachers with 10 or more years of experience had emergency or temporary certification. The results are similar for departmentalized teachers.

- Despite the fact that the measure of out-of-field teaching used in this report is conservative—it only includes teachers' main teaching assignments in core fields—the results indicate that a number of educators were teaching out of field. For example, the percent of teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field was 90 percent for mathematics teachers, 94 percent for science teachers, and 96 percent for teachers in English/language arts, social studies/social science, and foreign language. This means that 10 percent of mathematics teachers, 6 percent of science teachers, and 4 percent of English/language arts, foreign language, and social studies/social science teachers in grades 9 through 12 were teaching out of field. The percent of teachers who reported having an undergraduate or graduate major or minor in their main teaching assignment field was significantly lower for teachers of grades 7 through 12 than for teachers of grades 9 through 12 for mathematics (82 percent), science (88 percent), English/language arts (86 percent), and social studies/social sciences (89 percent), indicating that teachers in grades 7 and 8 are less likely to be teaching in field than are teachers in grades 9 through 12.

Continued Learning: Professional Development and Teacher Collaboration

In order to meet the changing demands of their jobs, high-quality teachers must be capable and willing to continuously learn and relearn their trade. Professional development and collaboration with other teachers are strategies for building educators' capacity for effective teaching, particularly in a profession where demands are changing and expanding. However, traditional approaches to professional development (e.g., workshops, conferences) have been criticized for being relatively ineffective because they typically lack connection to the challenges teachers face in their classrooms, and they are usually short term. Research suggests that unless professional development programs are carefully designed and implemented to provide continuity between what teachers learn and what goes on in their classrooms and schools, these activities are not likely to produce any long-lasting effects on either teacher competence or student outcomes (Fullan with Stiegelbauer, 1991). In addition to quality professional development, peer collaboration has also been recognized as important for teachers' continuous learning. The 1998 survey indicates that:

- Virtually all teachers participated in professional development activities (99 percent) and at least one collaborative activity (95 percent) in the last 12 months. Participation in professional development activities typically lasted from 1 to 8 hours, or the equivalent of 1 day or less of training. Teachers were most likely to participate in professional development activities focused toward areas that reformers emphasize (e.g., implementing state or district curriculum and performance standards, integrating technology into the grade or subject taught, using student performance assessment techniques).

- Nineteen percent of teachers had been mentored by another teacher in a formal relationship; 70 percent of teachers who were mentored at least once a week reported that it improved their teaching "a lot."

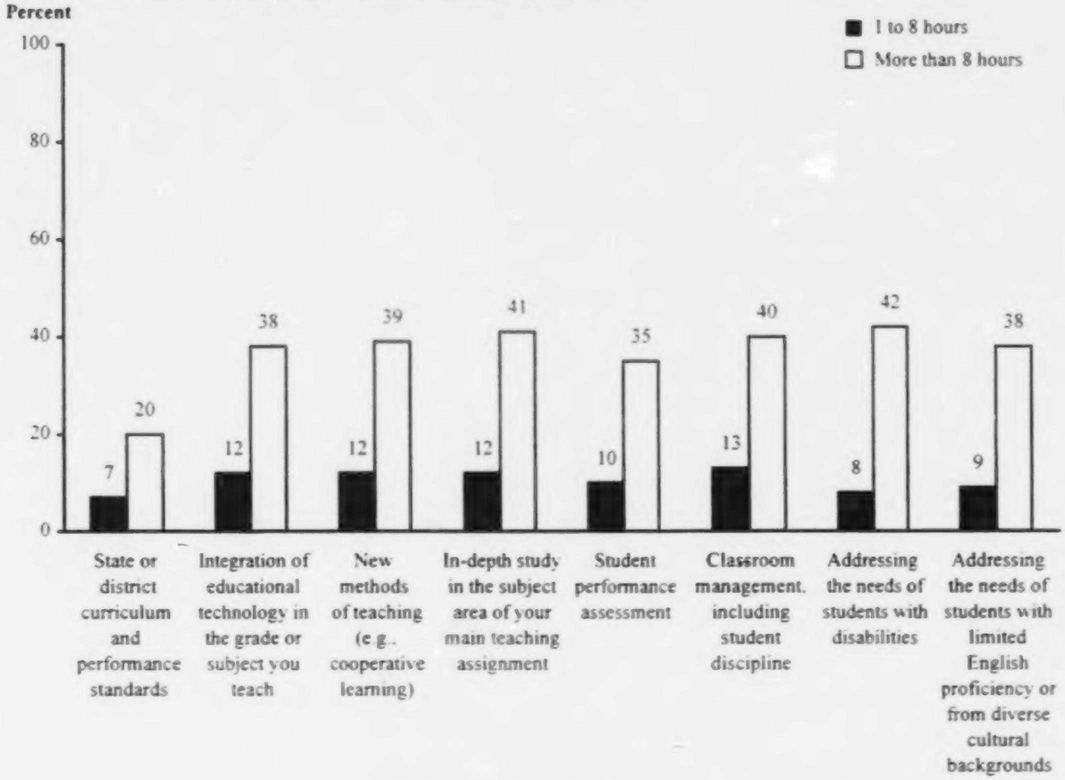
- Increased time spent in professional development and collaborative activities was associated with the perception of significant improvements in teaching. For every content area of professional development, a larger proportion of teachers who participated for more than 8 hours believed it improved their teaching "a lot" compared with teachers who participated for 8 hours or less (figure E). For example, teachers who spent more than 8 hours in professional development on in-depth study in the subject area of their main teaching assignment were more likely than those who spent 1 to 8 hours to report that participation in the program improved their teaching a lot (41 percent versus 12 percent). Moreover, teachers who participated in common planning periods for team teachers at least once a week were more likely than those who participated a few times a year to report that participation improved their teaching a lot (52 percent versus 13 percent).

Supportive Work Environment

Teachers' work environment is the final aspect of teacher quality addressed in this report. In addition to teacher learning, one key factor to understanding teacher quality is to focus on what happens to teachers once they enter the work force, including if they receive support from the schools and communities in which they work and from the parents of the children they teach. The 1998 FRSS survey indicates that:

- One-third of teachers had participated in an induction program when they first began teaching. However, newer teachers were more likely to have participated in some kind of induction program at the beginning of their teaching careers than were more experienced teachers (65 percent of teachers with 3 or fewer years of experience versus 14 percent of teachers with 20 or more years of experience). This FRSS survey did not elicit information regarding the intensity or usefulness of the induction programs.

Figure E.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their teaching a lot: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

- Teachers perceived relatively strong collegial support for their work; 63 percent strongly agreed that other teachers shared ideas with them that were helpful in their teaching. In addition, many teachers also felt supported by the school administration, with 55 percent agreeing strongly that the school administration supported them in their work and 47 percent agreeing strongly that goals and priorities for the school were clear.

- Teachers perceived somewhat less support from parents than from other teachers and the school administration. Only one-third of teachers agreed strongly that parents supported them in their efforts to educate their children.

- Collegial, school, and parental support varied by the instructional level of the school, with elementary school teachers perceiving stronger support than high school teachers.

The results of this survey provide a national profile of teacher quality, specifically focused on teachers' learning (both preservice and continued) and the environments in which they work. Included is important information regarding teachers' education, certification, teaching assignments, professional development, collaboration, and supportive work environment. In addition, comparisons by instructional level and poverty level of the school provide information about the distribution of teacher quality. This information provides a context for understanding why few teachers report feeling very well prepared to meet the challenges they face in their classrooms. This report is the first in a series of biennial reports that will be undertaken by NCES. Thus, the information provided here should provide a benchmark for these important dimensions of teacher quality and preparation.

Table of Contents

Section **Page**

Executive Summary iii

1 Introduction 1

Teacher Quality: How Has It Been Defined? 2

Teaching Practices 2
Teacher Preparation and Qualifications 3
Supportive Working Conditions 4
The Definition of Teacher Quality Used in This Report 5

Teacher Quality: How Has It Been Studied? 5

Classroom Observation 5
Teacher Testing 6
Student Achievement Tests 6
Large-Scale Surveys 7
The Measurement Approach Used in This Report 7

Organization of This Report 8

2 Preservice Learning and Teaching Assignment 9

Teacher Education 10
Teacher Certification 13
Teaching Assignment: In-Field Teaching 16

In-Field Teaching Among Teachers in Grades 7 through 12 17
In-Field Teaching Among Teachers in Grades 9 through 12 19

Summary 20

3 Continued Learning 21

Formal Professional Development 21

Content of Professional Development 22
Professional Development and Teaching Experience 24
Intensity of Professional Development Activities 26
Perceived Impact of Professional Development 27

Collaboration with Other Teachers 28

Participation in Collaborative Activities 30
Frequency of Participation 31
Perceived Effect of Participation 31

Summary 33

Table of Contents (continued)

Section	Page

4 Supportive Work Environment 35

Induction Programs 35
Class Size 37
Parent and School Support 40
Summary 44

5 Teachers' Feelings of Preparedness 47

Teachers' Preparedness for Classroom Requirements 47
Teacher Preparedness and Teaching Experience 49
Teacher Preparedness and Participation in Professional Development 50
Teacher Preparedness and Intensity of Professional Development 51
Teacher Preparedness and Collaborative Activities 52
Summary 55

6 Conclusions 57

References 59
Suggested Readings 63

List of Appendices

A: Survey Methodology and Data Reliability A-1

B: Detailed Tables of Estimates and Tables of Standard Errors for the 1998 FRSS Survey B-1

C: Detailed Tables of Estimates and Tables of Standard Errors for the 1993-94 SASS Study C-1

D: Standard Error Tables for Text Tables and Figures D-1

E: 1998 Teacher Survey on Professional Development and Training Fast Response Survey System Questionnaire E-1

F: Selected Questionnaire Items from the 1993-94 Schools and Staffing Survey Teacher Questionnaire F-1

Table of Contents (continued)

List of Text Tables

Text Table **Page**

1 Percent of full-time public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1998 ... 12

2 Percent of full-time public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1993-94 ... 13

3 Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1998 ... 14

4 Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1993-94 ... 14

5 Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998 ... 17

6 Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94 ... 18

7 Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998 ... 19

8 Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94 ... 20

9 Percent of full-time public school teachers who participated in professional development activities in the last 12 months in various content areas, by teaching experience: 1998 ... 25

10 Percent of full-time public school teachers who participated in professional development activities since the end of the school year in various content areas, by teaching experience: 1993-94 ... 26

11 Percent of full-time public school teachers indicating the number of hours spent in professional development activities in the last 12 months in various content areas: 1998 ... 26

12 Percent of full-time public school teachers indicating the number of hours spent in professional development activities since the end of the last school year in various content areas: 1993-94 ... 27

13 Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998 ... 27

14 Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating that the activity improved their teaching a lot, by teaching experience: 1998 ... 28

Table of Contents (continued)

List of Text Tables (continued)

Text Table **Page**

15 Percent of full-time public school teachers indicating the extent to which participation in professional development activities in various content areas improved their classroom teaching, by the number of hours spent in professional development in that content area in the last 12 months: 1998 29

16 Percent of full-time public school teachers who participated in activities related to teaching in the last 12 months, by frequency of participation: 1998 32

17 Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998 32

18 Percent of full-time public school teachers indicating the extent to which participation in activities related to teaching improved their classroom teaching, by the frequency with which they participated in that activity in the last 12 months: 1998 34

19 Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1998 38

20 Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1993-94 39

21 Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom: 1998 48

22 Percent of full-time public school teachers indicating they feel very well prepared to do various activities in the classroom, by teaching experience: 1998 50

23 Comparison of recent teacher participation in professional development in various content areas and perceived teacher preparedness for classroom requirements in those content areas: 1998 51

24 Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by the number of hours spent in professional development in the content area of the activity in the last 12 months: 1998 53

25 Percent of full-time public school teachers indicating they feel very well prepared to do various classroom activities, by whether they participated in various teaching-related activities in the last 12 months: 1998 54

Table of Contents (continued)

List of Figures

Figure **Page**

E Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their teaching a lot: 1998 vi

1 Percent of full-time public school teachers who hold a master's degree, by selected school and teacher characteristics: 1998 11

2 Percent of full-time public school teachers who hold a master's degree, by selected school and teacher characteristics: 1993-94 12

3 Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with a regular or standard state certificate or advanced professional certificate, by teaching experience: 1998 15

4 Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with a regular or standard state certificate or advanced professional certificate, by teaching experience: 1993-94 15

5 Percent of full-time public school teachers who participated in professional development activities in the last 12 months that focused on various topics: 1998 23

6 Percent of full-time public school teachers who participated in professional development activities since the end of the last school year that focused on various topics: 1993-94 23

7 Percent of full-time public school teachers who participated in professional development activities in the last 12 months that addressed the needs of students with limited English proficiency or from diverse cultural backgrounds, by percent minority enrollment in the school: 1998 24

8 Percent of full-time public school teachers who participated in professional development activities in the last 12 months that addressed the needs of students with limited English proficiency or from diverse cultural backgrounds, by region: 1998 25

9 Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months: 1998 30

10 Percent of full-time public school teachers who participated in mentoring activities in the last 12 months, by teaching experience: 1998 31

11 Percent of full-time public school teachers indicating the extent to which being mentored improved their classroom teaching, by teaching experience: 1998 33

12 Percent of full-time public school teachers who participated in a formal induction program when they first began teaching, by teaching experience: 1998 36

13 Percent of full-time public school teachers who participated in a formal induction program during their first year of teaching, by teaching experience: 1993-94 36

14 Percent of full-time public school teachers indicating the length of the formal induction program in which they participated when they first began teaching: 1998 37

15 Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers: 1998 40

Table of Contents (continued)

List of Figures (continued)

Figure **Page**

16 Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers: 1993-94 41

17 Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by school instructional level: 1998 42

18 Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by school instructional level: 1993-94 43

19 Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by teaching experience: 1998 43

20 Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by teaching experience: 1993-94 44

21 Percent of full-time public school teachers agreeing or disagreeing that parents support them in their efforts to educate their children, by percent of students in school eligible for free or reduced-price school lunch: 1998 45

22 Percent of full-time public school teachers agreeing or disagreeing that they receive a great deal of support from parents for the work they do, by percent of students in school eligible for free or reduced-price school lunch: 1993-94 45

23 Percent of full-time public school teachers indicating they feel very well or moderately well prepared to address the needs of students with limited English proficiency or from diverse cultural backgrounds, by percent minority enrollment in the school: 1998 49

24 Percent of full-time public school teachers indicating they feel very well prepared to do various classroom activities, by whether they participated in professional development activities in the last 12 months that focused on these content areas: 1998 52

Every child needs—and deserves—dedicated, outstanding teachers, who know their subject matter, are effectively trained, and know how to teach to high standards and to make learning come alive for students.

President Clinton, September 1996.

1. INTRODUCTION

In his 1997 State of the Union address, President Clinton issued a "Call to Action" that included as a priority improving the quality of teachers in every classroom. President Clinton's speech reflects growing concern over the condition of education and the nation's need for excellent teachers. Now more than ever, success is determined by an individual's ability not only to read and write, but also to frame and solve complex problems and continually learn new skills. The nation's educational system is increasingly being asked to provide our children with the knowledge, information, and skills needed to compete in an increasingly complex international marketplace. Good teachers are the hallmark of such an educational system; they are integral to children's intellectual and social development. Therefore, they must know how to teach in ways that help our children reach high levels of competence.

A national profile of teacher quality is a necessary tool for tracking our progress toward this goal. However, providing such a profile is not an easy task. Teacher quality is a complex phenomenon, and there is little consensus on what it is or how to measure it. Definitions range from those that focus on what should be taught and how knowledge should be imparted to the kinds of knowledge and training teachers should possess. Efforts to collect such data have included diverse methods, such as classroom observations and videotaping, the administration of large-scale surveys, and the collection of artifacts (e.g., teacher logs, homework).

There are, however, two broad elements that characterize teacher quality: teacher preparation and qualifications, and teaching practices. The first refers to preservice learning (e.g., postsecondary education, certification), teaching assignment, continued learning (e.g., professional development, collaboration with other teachers, teaching experience), and general background (e.g., demographics, aptitude, life experience). The second refers to the actual quality of *teaching* that teachers exhibit in their classrooms (U.S. Department of Education, 1996a). Of course, these two elements of teacher quality are not mutually exclusive: excellent teacher preparation and qualifications are expected to lead to exemplary teaching.

This study is based on current efforts by the National Center for Education Statistics (NCES) to collect data on key indicators of teacher preparation and qualifications, using a large-scale survey administered to a nationally representative sample of full-time, public school teachers whose primary teaching assignment is in English/language arts, social studies/social sciences, foreign language, mathematics, or science or who teach a self-contained classroom. Specifically, this report includes indicators of preservice and continued learning (e.g., degrees held, certification, teaching assignment, professional development opportunities, collaboration with other teachers, teaching experience). Because schools and communities play an important role in shaping and maintaining high-quality teachers, this report also examines the work environments in which educators teach (e.g., formal induction procedures for new teachers, class size, parental support).

This report is timely in light of recent concerns about the quality of our educational system and our teachers. Many of these concerns draw attention to such issues as the training and support teachers receive (National Commission on Teaching and America's Future—NCTAF, 1996) and the number of teachers providing instruction outside of their subject-matter fields (U.S. Department of Education, 1996b). As a recent review of the research indicates, teacher qualifications and preparation are important elements of teacher effectiveness and important factors in determining student achievement (National Commission on Teaching and America's Future, 1997). This study of teacher quality, conducted using the NCES Fast Response Survey System (FRSS), provides a national profile of the current state of teacher preparation and qualifications for full-time public school teachers, as well as several indicators of their work environment.

The remainder of this chapter is divided into two main sections. The first section describes the current thinking about teacher quality—the many ways it is defined—and concludes with the definition used in this study. The second section describes the current approaches used to measure teacher quality and concludes with a discussion of the measurement approach used in this study.

Teacher Quality: How Has It Been Defined?

Perhaps the most traditional approach to characterizing teacher quality is the "expert teacher study," which focuses on teachers who have been identified as successful by their administrators or peers. This field of research is rich in detail, describing how successful teachers connect what they know with how they teach. For example, researchers have found that expert teachers use knowledge about the children in their classrooms—their backgrounds, strengths, and weaknesses—to create lessons that connect new subject matter to students' experiences (Leinhardt, 1989; Westerman, 1991). They also use this knowledge to adapt their teaching to accommodate children who learn in different ways. Expert teachers know how to recognize children experiencing difficulties, diagnose sources of problems in their learning, and identify strengths on which to build. This skill is particularly important because a growing number of students with a wider range of learning needs (i.e., students whose first language is not English and students with learning differences and disabilities) are entering and staying in school.

One strength of the expert teacher research is that it relies on intuitive logic, which supports the belief that it is possible to identify good teachers by observing them and that, once identified, the teachers' strengths can be determined and recorded. This body of research also confirms what many people envision a high-quality teacher to be—someone who understands children and knows how to assist their learning. For example, the Interstate New Teacher Assessment and Support Consortium (INTASC, 1995) established 10 key principles it believes to be central tenets of effective teaching. The principles state that teachers should be able to understand their subject matter and relate it to students, adopt teaching strategies that are responsive to different learners, employ diverse instructional strategies, establish proper assessment tools to measure student development, and engage in continual curriculum evaluation and professional development (INTASC Core Standards).

However, aside from such broad notions of teacher quality, there is little consensus regarding its precise definition (Stodolsky, 1996). That is, there is no single answer to the question "What qualifications and practices characterize high-quality teachers?" There are many different and sometimes conflicting views of what constitutes a good teacher. These views, as discussed below, address not only teaching practices, but also teacher preparation and qualifications as well as the school environments where teachers work.

Teaching Practices

The disagreement over basic skills versus complex thinking approaches to instruction is one example of the key disputes currently surrounding definitions of high-quality teaching practice. Although viewing these techniques as opposing approaches represents a simplification of the issue, these two instructional methods do illustrate the extremes of the current debate.

The first form of instruction traditionally has been conceptualized as the transmission of facts to students, who are seen as passive receptors. In classrooms where this type of teaching predominates, teachers typically conduct lessons through a lecture format, instruct the entire class as a unit, write notes on the chalkboard, and pass out worksheets for students to complete. In such classrooms, knowledge is presented as fact. This is the type of instruction with which most Americans are familiar.

By contrast, in classrooms characterized by higher order tasks, typically described as "constructivist," students are encouraged to pose hypotheses and to explore ways to test them. They are encouraged to weigh information from these "tests" with previous experiences or understanding of the topic. Students then "construct" a new understanding of subject matter. Although many recent school reform efforts advocate such innovative instruction (e.g., Coalition of Essential Schools—Sizer, 1992; National Association of Secondary School Principals and the Carnegie Foundation for the Advancement of Teaching—NASSP, 1996), there is much debate regarding the use and implementation of such instructional techniques. For example, opposition may come from parents and teachers who hold more traditional views of teaching and learning. Moreover, the concerns of parents, teachers, and students about access to colleges—which is based, in part, on high performance on standardized tests of recognized skills and facts—may discourage the use of innovative instructional techniques (Talbert and McLaughlin, 1993). Studies of these constructivist teaching methods have been limited because such instruction has only recently been implemented. The existing studies typically use classroom observation in a limited number of settings.

Teacher Preparation and Qualifications

As with teaching practices, there is debate surrounding the preparation and qualifications that characterize high-quality teachers. Compared to other fields, disputes and ambiguities regarding the knowledge base and competence required of professionals are particularly striking in teaching (Sykes, 1990). There is little dispute that teachers ought to have a postsecondary education and possess strong knowledge of the subjects they teach, but beyond this there is some disagreement about what individuals need to know and be able to do in order to teach effectively. Moreover, as researchers struggle to quantify teacher preparation and qualifications, some critics feel that studies of teachers' credentials and knowledge do not provide enough information about teacher quality—that is, indicators of teacher preparation and qualifications do not directly address the actual quality of instructional practices. As these debates are highlighted in the paragraphs that follow, however, it is important to note that there are some well-established indicators of teacher preparation and qualifications that do inform researchers, policymakers, and education consumers.

During an NCES conference presentation, David Mandel (1996, p. 3-31), former Vice President for Policy Development at the National Board for Professional Teaching Standards, stated:

> What is known is the type of education credentials teachers have accumulated and the type of state licenses they have been granted. This information has proven useful in gaining a rough sense of how well-prepared teachers are to take on the assignments they are handed... But such data, even when positive, provide only the most modest threshold of confidence regarding the quality of practice in the nation's schools.

Other researchers agree that understanding teacher preparation and qualifications requires more than determining whether or not a teacher has a degree or certification. The National Board for Professional Teaching Standards describes teaching as a complex skill involving multiple talents (NBPTS, 1998). Ballou and Podgursky (1997, 1998) raise important measurement issues in their discussion of ways in which to attract "brighter" individuals into the teaching pool. In this discussion, they insist that flexibility in certification and personnel policies facilitates the entry of talented individuals into teaching. The implication of their argument is that extensive formal training may not necessarily create good teachers. The authors suggest that talented individuals may be less likely to remain in teacher training programs that require extended commitment; they may be more likely to seek more lucrative professions. According to their logic, extended formal training does not necessarily reflect teacher quality. It is important to note, however, the other side of the debate; that is, in addition to talent and subject-matter knowledge, prospective teachers must also be trained to teach children (NCTAF, 1996).

Supportive Working Conditions

In addition to teacher preparation and qualifications and teaching practice, investigations of teacher quality have included studies of what happens to teachers once they enter the workforce. This perspective stems from the premise that classrooms and schools become effective when talented people are teaching in workplaces that are stimulating and rewarding (Fullan with Stiegelbauer, 1991). In order to promote high-quality teaching that will in turn produce high-quality learning, teachers need support from the schools and communities in which they work (including such issues as induction programs for new teachers and the number of students for whom teachers are responsible) and support from the parents of the children they teach.

Class size. Although the research on class size is somewhat mixed—some research studies suggest positive effects of reduced class size, others suggest little effect—it seems reasonable to assume that smaller class size may facilitate teachers' work. In order for teachers to become "experts" as defined by the expert—teacher literature, it is important for them to truly know and understand the children in their classrooms, which clearly would be easier if there were fewer children. Some of the research on class size supports this logic. For example, studies of Tennessee's Project STAR indicate that students in smaller classes (13-17 students) significantly outperformed students in larger classes (22-25 students) on achievement tests in mathematics and reading (Finn and Achilles, 1990; Word et al., 1990). Ferguson (1990) reported similar findings in Texas; classes enrolling more than 18 students were associated with lower reading and math test scores for grades 1-7. To explain the class size effects, researchers have cited the smaller number of disruptions, the increased teacher attention for students, and the increased opportunity for student participation in smaller classrooms (Achilles, 1996). Other researchers argue that reducing class size has little or no effect on student performance. In an examination of trend data from the 1950s to 1986, Tomlinson (U.S. Department of Education, 1988) did not find a consistent relationship between class size and standardized test scores. Moreover, based on a review of the literature, Odden (1990) argued that class size reduction produces only modest gains in student achievement and does not justify the cost of implementing such reform.

Induction of new teachers. Research has found that the attrition rates of new teachers are five times higher than those of their more experienced counterparts (Asian-Pacific Economic Cooperation, 1997). In order to introduce beginning teachers into the profession with support and guidance, many districts have implemented formal induction programs. These programs can have two goals: to assist beginning teachers with instruction and to prepare them to meet state certification requirements. A key feature of many programs is the mentoring aspect—the pairing of an experienced teacher with a new teacher. Responsibilities of the mentor may include providing guidance on curriculum, classroom management, and assessment (Galvez-Hjornevik, 1986). It is expected that mentoring relationships play a critical role in the support, training, and retention of new teachers (King and Bey, 1995). Therefore, by easing the transition into full-time teaching, formal induction programs provide new practitioners with skills and support structures to develop effective teaching practices. It is important to note that in addition to *formal* induction of new teachers, there are many important avenues for *informal* induction (e.g., team teaching, common planning time and other activities which results in informal collaboration between new and experienced teachers).

Parental support. An extensive body of research has found what many parents and educators already know—children prosper when their parents are actively involved in their education. Research has shown that support from families, including greater family involvement in children's learning, is a critical factor leading to a high-quality education (U.S. Department of Education, 1994a). Policymakers have tapped into this important resource; for example, the National Education Goals included parental involvement in children's education as a top priority. Clearly, teachers' jobs are easier when parents work *with* ~~them~~ rather than *against* them. For this reason, parental support is an important feature of teachers' work environment.

The Definition of Teacher Quality Used in This Report

The previous discussion underscores the complex and sometimes controversial nature of defining teacher quality. Two main elements were discussed—teacher preparation and qualifications, and teaching practices. The definition used in this report is based on the former rather than the latter. Teachers' professional preparation (as well as their working conditions) has been identified as fundamental to improving elementary and secondary education (Carnegie Forum on Education and the Economy, 1986; Holmes Group, 1986; NCTAF, 1996). Policymakers today are especially interested in the training and education teachers receive in the subject areas they teach; high-quality teacher preparation and qualifications are expected to lead to high-quality teaching. For these reasons, a national profile of teacher preparation and qualifications provides important information about the quality of America's teachers.

Decisions regarding how to define teacher quality have implications for the method researchers use to measure it. For example, teaching practices are increasingly measured through classroom observation. Teacher preparation and qualifications are often measured through large-scale surveys. The following section discusses the various ways teacher quality has been measured. Included is a discussion of the definition(s) typically associated with each measurement approach.

Teacher Quality: How Has It Been Studied?

Just as definitions about teacher quality differ, so do the ways in which it has been studied. Conventional approaches to measuring teacher quality have typically taken four forms: (1) classroom observations of teacher practices; (2) written examinations of teachers measuring their basic literacy, subject-matter knowledge, and pedagogical skills; (3) student performance and achievement; and (4) large-scale surveys of teacher qualifications, attitudes, behaviors, and practices. It is important to note that studies of teacher qualifications or practices are not always driven by theories of what constitutes a good teacher. Sometimes such indicators are developed to answer specific policy questions. As described below, different approaches to measuring teacher qualifications or practices are based on different conceptions of what it means to be a high-quality teacher or on the specific needs or interests of policymakers.

Classroom Observation

Observational research has a long and growing history in the field of education. Classroom observation, as well as the collection of artifacts (e.g., teacher logs, homework) and information from interviews, has been employed to document teaching practices generally and to assess teaching quality specifically. Observation, as used by school systems for evaluation purposes, has been strongly criticized as having the following problems: limited competence of principals, teacher resistance and apathy, lack of uniformity within school systems, and inadequate training of evaluators (Wise et al., 1984). Principals often experience role conflict as they try to serve as both evaluators and instructional leaders, and they tend to lack expertise in specialized subject-matter areas, especially at the secondary school level (Stodolsky, 1984).

Using observational data to document teaching practices is less controversial than using it to assess individual teachers for purposes of salary increase, tenure, or recertification. Observational studies, often combined with interviews or teacher logs, include investigations of teachers' pedagogical content knowledge and reasoning (Ball and Wilson, 1996) and the connections between education policy and teacher practices (Ball, 1990; Cohen, 1990; Peterson, 1990), professional development and teaching (Ball, 1996), and subject matter and curricular activity (Stodolsky and Grossman, 1995).

Observational data provide rich detail and in-depth information. As such, observation is typically used to provide a detailed picture of classroom instruction in a limited number of classrooms. Because collecting such data is costly, this approach is rarely used to provide a national profile of instruction. However, NCES is involved in an effort to provide such a profile. The Videotape Classroom Study, part of the Third International Mathematics and Science Study (TIMSS), consists of videotaped lessons in 231 eighth grade mathematics classrooms in the United States, Germany, and Japan. The report of the video study includes general findings regarding international differences in how lessons are structured and delivered, what kind of mathematics is presented, and the kinds of mathematical thinking in which students are engaged (U.S. Department of Education, 1998a).

Teacher Testing

Standardized tests, such as the National Teacher Examinations (NTE), have been used to measure teachers' basic knowledge and skills (e.g., basic literacy, number skills, subject-matter knowledge in particular areas). Teacher test scores have then been linked to student test scores. Ferguson (1990) found that teachers' scores on a test of basic literacy skills were significantly correlated with their students' test scores. Results are typically used to determine whether to grant temporary or permanent certification, and occasionally for continuation of tenured teachers.

While most experts agree that having basic subject knowledge is an important prerequisite to effective teaching, critics maintain that it is not a sufficient indication of the range of knowledge and skills needed to instruct and manage groups of children. They argue that this approach does not provide a complete picture of teacher quality. These tests only measure teachers' basic knowledge and not their pedagogical knowledge or their teaching practice. In response, organizations such as the Educational Testing Service (ETS), the Interstate New Teacher Assessment and Support Consortium, and the National Board for Professional Teaching Standards have undertaken efforts to develop new systems of teacher assessment that feature "standards-based assessments." One example of the new generation of teacher examinations is the Professional Assessments for Beginning Teachers, the PRAXIS series, currently being developed by the Educational Testing Service as a replacement for NTE. The PRAXIS series consists of three types of assessments: (1) a computerized test of basic literacy and numeracy skills; (2) a paper-and-pencil test of subject-matter knowledge and general pedagogical principles; and (3) an observational assessment of classroom teaching performance. The PRAXIS series is meant to assess potential and practicing teachers at different times during their training and practice (e.g., admitting candidates into teacher education programs and awarding initial and ongoing certification). In addition, many states have developed their own assessments as a basic prerequisite for teaching. These assessments can take the form of written tests, which may measure basic skills, subject matter or knowledge of teaching methods, and performance evaluations, which could consist of portfolio evaluation or classroom observation (CCSSO, 1998).

Such efforts have grown out of the recent push to identify standards for teacher and student performance. These kinds of assessments go beyond paper-and-pencil tests to include portfolio assessment and in-person testing, which incorporate pedagogy, content knowledge, and role-play/interactive sessions. Teachers may also be required to submit examples of their work through videotapes and lesson plans. Teachers are asked to analyze teaching situations and defend teaching decisions based on knowledge of subject, students, curriculum, and pedagogy.

Student Achievement Tests

Many would argue that the bottom line of whether teachers (and schools) are effective is whether their students are successful. The use of student achievement test score gains to assess *teachers*, rather than educational systems, however, has received substantial criticism (U.S. Department of Education, 1996a). Specifically, social scientists have argued that it is very difficult to separate out the portion of student achievement gains that can be reliably attributed to an individual teacher. Numerous factors affect student achievement over the course of a school year in addition to his or her teacher: home background, student personality, attendance, school and community resources, and the peer group have all been demonstrated to affect how much students learn. In addition, critics have argued that standardized achievement tests assess minimum levels of student competence and are often limited to the kinds of knowledge that can be captured with multiple-choice formats.

Large-Scale Surveys

National surveys of teachers have been used to provide quantifiable indicators of teacher quality. Typically, teachers have been asked to provide information on attributes such as their educational background, major and minor fields of study, certification, and professional development experiences. Such indicators have sometimes been linked to student test scores. For example, Ferguson (1990) found that the students of teachers with master's degrees had higher test scores in grades 1-7.

Over the years, there have been many efforts by NCES and others to use large-survey methodology to describe teaching—and, more generally, to capture what happens in classrooms. Examples of recent efforts can be found in *School Policies and Practices Affecting Instruction in Mathematics* (U.S. Department of Education, 1998b), *America's Teachers: Profile of a Profession, 1993-1994* (U.S. Department of Education, 1997), *Toward Better Teaching Professional Development in 1993-94* (U.S. Department of Education, 1998c), and *What Happens in Classrooms? Elementary and Secondary School Instruction, 1994-95* (U.S. Department of Education, forthcoming). These data notwithstanding, social scientists agree that existing surveys on these topics leave room for improvement. Important work continues in areas such as curriculum content, but new tools must be developed before large-scale differences in instructional and classroom practices can be reliably reported.

The Measurement Approach Used in This Report

The qualities deemed relevant to effective teaching, the goals of the assessor, and the resources available all contribute to the choice of assessment. The measurement approach adopted in this report is a large-scale survey administered to a representative sample of American teachers. Such a survey is particularly appropriate for providing a national profile of teacher preparation, qualifications, professional development, and school and parental support. Providing a picture of our nation's teachers is important in tracking trends of teacher preparedness and professional experiences.

Because of constraints on teacher time and resources, there are few national reports of this kind. Instead, many national reports have compiled data from a variety of sources to make conclusions about the status of education in America. Only the Schools and Staffing Survey (SASS), conducted by NCES on a regular basis, collects data from both teachers and schools on numerous aspects of teacher quality. SASS indicators of teacher quality include recruitment, teacher preparation, induction programs, teaching assignment (e.g., committee work, in- and out-of-field teaching), resources (e.g., class size, planning time), and professional development opportunities. However, the last SASS was conducted in 1993-94, and the next one will not be fielded until 1999-2000. The need for up-to-date, nationally representative data on the nation's teaching force prompted this Fast Response Survey on Professional Development and Training in 1998. In addition to presenting current findings on teacher quality from the 1998 FRSS survey, this report draws comparisons between the FRSS findings and findings from comparable questions on NCES' 1993-94 SASS. The comparisons provide some information about trends over the 4-year period. See appendix A for a discussion of the comparisons between the surveys. Both surveys are described in more detail below.

1998 FRSS Survey. The Teacher Survey on Professional Development and Training was conducted through the NCES FRSS during spring 1998. FRSS is a survey system designed to collect small amounts of issue-oriented data with minimal burden on respondents and within a relatively short timeframe. Questionnaires (see appendix E) were mailed to a nationally representative sample of 4,049 full-time teachers in regular public elementary, middle, and high schools in the 50 states and the District of Columbia. The sample was designed to represent full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom. Part-time, itinerant, and substitute teachers were excluded, as were teachers whose main teaching assignment was in another subject area (e.g., art, special education). Data have been weighted to national estimates. All comparative statements made in this report have been tested for statistical significance using chi-square tests or *t*-tests adjusted for multiple comparisons using the Bonferroni adjustment and are significant at the 0.05 level or better. Appendix A provides a detailed discussion of the sample and survey methodology.[1]

1993-94 Schools and Staffing Survey. Since 1987-88, NCES has periodically conducted the SASS, an integrated survey of public and private schools, school districts, principals, and teachers. Most recently conducted in 1993-94, it provides a comprehensive picture of the school workforce and teacher supply and demand. Included on the public school teacher survey are several items on teacher training and professional development. Some of the items are similar, although not identical, to the items on the FRSS survey (see appendix F). Data from the similar items on the 1993-94 SASS teacher survey were reanalyzed for a subset of schools and teachers that are approximately the same as the schools and teachers sampled for the FRSS survey.[2] Results are incorporated into the discussion of the FRSS data where appropriate.[3] Because the SASS data were reanalyzed in this way, the estimates that appear in this report differ from SASS data published in other National Center for Education Statistics reports.

Organization of This Report

The preparation of high-quality teachers stems from the many experiences and opportunities that they face, both prior to and during their teaching careers. For all teachers, learning begins before entering their own classrooms. Among their learning experiences is the formal postsecondary training they undergo in order to become educators. This includes college work and certification. Once on the job, teachers have many additional opportunities to learn—ranging from the general learning that comes from years of work experience to more structured opportunities in the form of formal professional development activities. Not surprisingly, teacher learning and preparation are enhanced in environments that support their learning and their work. This discussion suggests one useful model for thinking about teacher quality; it begins with different types of teacher learning and ends with the support teachers receive to pursue continued learning.

Using this model of teacher quality, the results sections of this report first address teacher learning (both preservice and on the job), as well as the working conditions to which teachers are exposed; these sections then examine the extent to which teachers feel themselves prepared to meet the challenges they face in their classrooms. The results of the 1998 survey and comparisons between the 1998 and 1993-94 surveys are divided into four chapters corresponding directly to the four main topics investigated in this FRSS report: (1) preservice learning and teaching assignment; (2) continued learning; (3) supportive work environment; and (4) teachers' feelings of preparedness. Conclusions are provided in the final chapter of this report.

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[1] Detailed tables for the FRSS survey are in appendix B. Tables of standard errors for the text tables and figures are in appendix D.

[2] Public school teachers targeted in the 1993-94 SASS study for comparison to the 1998 FRSS study are full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[3] Detailed tables for the SASS items are presented in appendix C.

2. PRESERVICE LEARNING AND TEACHING ASSIGNMENT

Teachers' preservice learning and teaching assignment are the first features of the teacher quality model presented in this report. Aspects of preservice learning and teaching assignment (e.g., completion of a teacher education program, course work or earned degree(s) beyond the baccalaureate, and possession of some kind of certification or credential) have traditionally been used to characterize teacher preparation and qualifications. Preservice learning occurs prior to entering the classroom.[4] Teaching assignment is investigated to determine the match (or lack thereof) between teachers' training and the main subject areas that they are assigned to teach.

Growing concern that a number of the nation's teachers are underqualified to teach our children has focused attention on the quality of their preservice learning, and especially on the institutions that prepare prospective teachers. These institutions have been criticized for treating the education programs as "cash cows which are conducted on a shoestring and used to fund programs in other fields" (NCTAF, 1997: 31). Critics argue that schools of education should be more "intellectually solid" and more connected to elementary and secondary schools (Holmes Group, 1986: 2). For example, colleges and universities should improve the screening process of teacher candidates to weed out weak students (Holmes Group, 1986), and these prospective teachers should be required to have academic majors in the fields they will eventually teach (Ravitch, 1998).

Criticisms have also been launched at certification policies. Critics argue that setting standards and not enforcing them has increased the number of underqualified teachers in American schools. These concerns were reflected in a recent speech by Education Secretary Richard Riley to the National Press Club (September 1998). In that speech, Secretary Riley implored the nation's colleges and universities to do a better job of preparing teachers and challenged every state to eliminate emergency certification.

Finally, concern over underqualified teachers has led to increased attention toward the problem of out-of-field teaching. In order for teachers to provide the highest quality learning experiences for students, they must first understand and be able to communicate the subject matter. The number of students being taught by untrained and unprepared teachers has triggered researchers, practitioners, and others vested in education to search for solutions. Most realize that "knowledge of subject matter and of pedagogical methods do not, of course, guarantee quality teachers nor quality teaching, but they are necessary prerequisites" (U.S. Department of Education, 1996b: 2). The lack of continuity between a teacher's training and a teacher's assignment leaves students learning from teachers that have not met those prerequisites.

Researchers have debated the reasons why teachers are assigned to teach out of field. As summarized by Ingersoll (1998), some believe that there are not enough teachers who are adequately trained in academic coursework. Others propose that teacher unions force schools to retain older, less competent teachers and to subject new, more qualified teachers to cutbacks. Finally, some researchers believe that shortages in teacher supply force schools to hire teachers with lower qualifications. Ingersoll proposes that the low status and low pay teachers receive contributes to high turnover rates. To deal with the frequent vacancies, he argues, schools are reduced to assigning teachers to out-of-field classes (Ingersoll, 1998). These conditions may also contribute to the number of teachers granted emergency certification. This FRSS report addresses the incidences of out-of-field teaching and emergency certification, but does not seek explanations for these phenomena.

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[4] Although characterized as preservice learning, it is important to note that teachers may enhance or expand their education and certification once on the job. For example, they may earn a master's degree once employed as classroom teachers.

This chapter addresses the following indicators of preservice learning: education, certification, and the match between teachers' preparation and teaching assignment—in-field versus out-of-field teaching. Each of these issues is discussed in more detail below.

Teacher Education

Teacher education is the first measure of preservice learning addressed in this report. The type of degree held by a teacher is one measure used to determine teacher qualifications. Holding at least a bachelor's degree was once considered adequate, but today teachers often are expected to hold advanced degrees. As discussed earlier, this expectation has been accompanied by a push for teachers, particularly those teaching in secondary schools, to have an academic major, rather than a major in the study of education. In fact, since 1986 about 300 colleges have created extended teacher education programs that enable students to obtain both a bachelor's degree in an academic field and a master's degree in education (Darling-Hammond, 1998).

In 1998, virtually all full-time public school teachers had a bachelor's degree, nearly half (45 percent) had a master's degree, and 1 percent had a doctorate (table B-2[5]). The likelihood of a teacher having a master's degree varied somewhat by the school instructional level and the number of years of teaching experience (figure 1 and table B-2). A higher percentage of teachers who taught at the high school level had master's degrees (55 percent) than did those teaching in middle schools (46 percent) and those teaching in elementary schools (40 percent). The likelihood of holding a master's degree increased with the number of years of teaching experience. Thus, teachers with 3 or fewer years of teaching experience were the least likely to have a master's degree (16 percent), compared with 31 percent of teachers with 4 to 9 years of experience, 48 percent of teachers with 10 to 19 years of experience, and 62 percent of those with 20 or more years of teaching experience.[6] This is not surprising, given that many states and districts have long required that a teacher earn a master's degree or its equivalent within a specified period of time.

Having a master's degree also varied by the concentration of poverty in the school (as defined by the percentage of students eligible for free or reduced-price lunch). Teachers in schools with higher concentrations of poverty were generally less likely to hold master's degrees than were teachers in schools with low concentrations of poverty (figure 1 and table B-2). For example, 37 percent of the teachers in the highest poverty schools had master's degrees compared with 57 percent in the lowest poverty schools. The likelihood of having a master's degree also varied by geographic region, with 60 percent of teachers in the Northeast and 51 percent of teachers in the Midwest having master's degrees, compared with 38 percent in the West and 39 percent in the South. These 1998 findings paralleled those from 1993-94,[7] where similar patterns emerged (figure 2 and table C-3[8]).

Among the full-time public school teachers in the 1998 study, 38 percent had an undergraduate or graduate major in an academic field, 18 percent had a major in subject area education (i.e., the teaching of an academic field, such as mathematics education), 37 percent had a major in general education, and 7 percent had a major in other education fields (e.g., special education, curriculum and instruction, or educational

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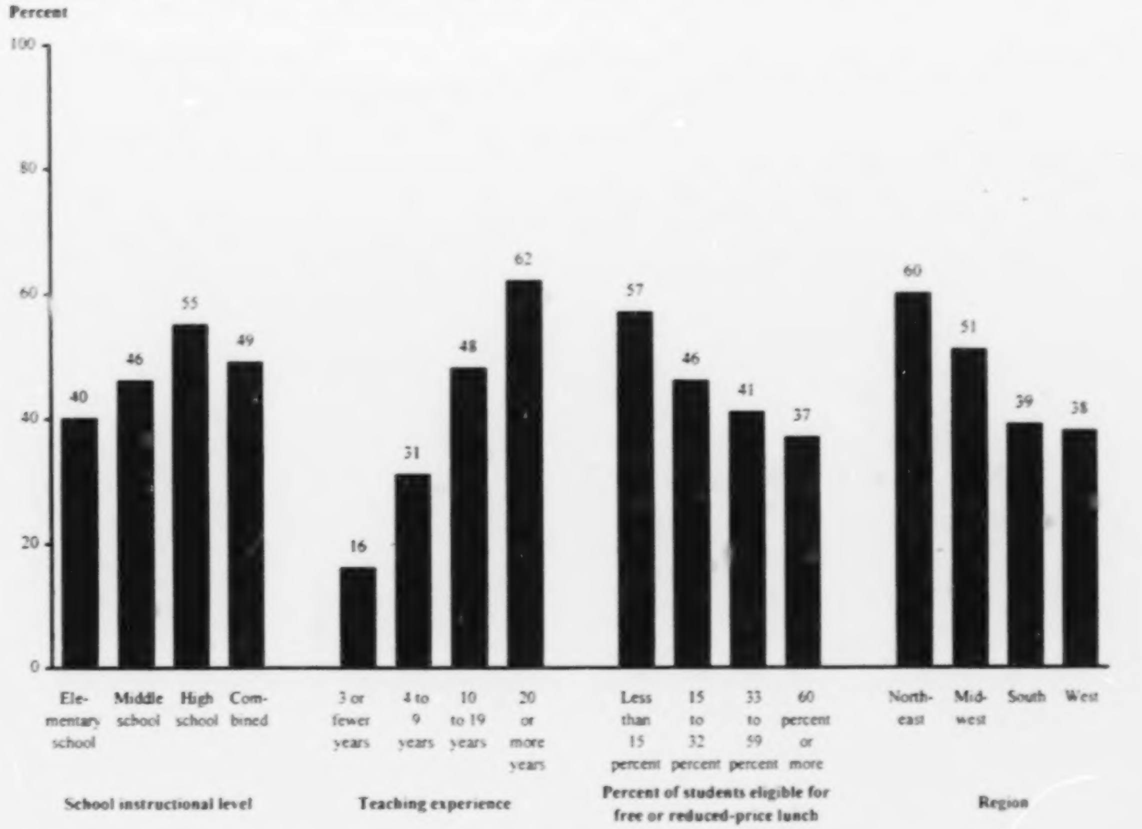
[5] Tables that begin with the prefix B are detailed tables from the 1998 FRSS study, which appear in appendix B.

[6] The teachers in 1998 averaged 15 years of total teaching experience, and 10 years as a teacher in their current school (table B-3). In general, the teaching profession includes a greater percentage of highly experienced teachers than novice teachers; 39 percent of the teachers had been teaching for 20 or more years, while 14 percent had been teaching for 3 or fewer years (table B-1). About one-quarter of the teachers had 4 to 9 years or 10 to 19 years of teaching experience (22 and 25 percent, respectively). Findings from 1993-94 indicate that the percentage of teachers reporting various years of experience in the field has remained essentially unchanged (tables C-1 and C-2).

[7] Data from similar items on the 1993-94 SASS teacher survey were reanalyzed for a subset of schools and teachers that is approximately the same as the schools and teachers sampled for the 1998 FRSS survey. Results are incorporated into this report where appropriate. See appendix A for a discussion of the comparisons between these two surveys.

[8] Tables that begin with the prefix C are detailed tables from the 1993-94 SASS study, which appear in appendix C.

Figure 1.—Percent of full-time public school teachers who hold a master's degree, by selected school and teacher characteristics: 1998

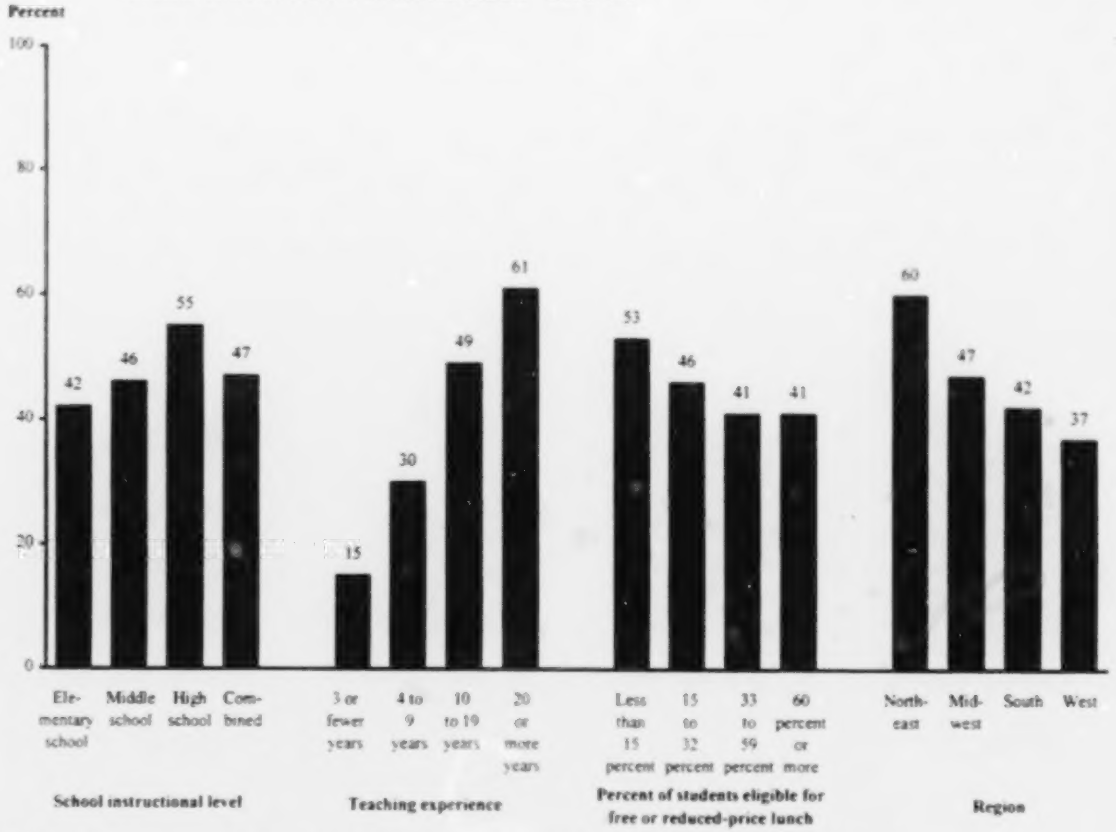


SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

administration; table 1). For these analyses, each teacher was only counted once, even if he or she had more than one major or more than one degree. Major fields of study were selected in the order of academic field, subject area education, other education, and general education. See appendix A for a more detailed discussion of how this measure was calculated and tables that show duplicated majors.

The percentages with majors in various fields varied by the instructional level of the school and years of teaching experience. While 58 percent of elementary school teachers majored in general education, 27 percent of middle school teachers and only 5 percent of high school teachers had general education majors. More high school teachers had an undergraduate or graduate major in an academic field (66 percent), compared with elementary school teachers (22 percent) and middle school teachers (44 percent). In addition, more high school and middle school teachers majored in subject area education (29 and 22 percent, respectively) than did elementary school teachers (9 percent). The newest teachers (i.e., those with 3 or fewer years of teaching experience) were more likely to have majored in an academic field than were any of the more experienced teachers. Thus, half of the teachers with 3 or fewer years of experience had majored in an academic field, compared with 32 to 41 percent of the more experienced teachers, perhaps reflecting the recent emphasis in teacher education on majoring in an academic field rather than in education. The 1993-94 data showed the same patterns for instructional level (table 2). That is, most middle and high school teachers majored in an academic field or subject area education,

Figure 2.—Percent of full-time public school teachers who hold a master's degree, by selected school and teacher characteristics: 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table 1.—Percent of full-time public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1998

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	38	18	37	7
School instructional level				
Elementary school	22	9	58	11
Middle school	44	22	27	7
High school	66	29	5	1
Combined	55	35	8	2
Teaching experience				
3 or fewer years	50	11	37	2
4 to 9 years	41	16	39	5
10 to 19 years	32	20	37	11
20 or more years	36	20	36	8

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding. Major fields of study were selected in the order of academic field, subject area education, other education, and general education.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table 2.—Percent of full-time public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1993-94

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	39	21	34	7
School instructional level				
Elementary school	24	14	52	10
Middle school	44	26	24	6
High school	67	30	3	1
Combined	55	32	11	2
Teaching experience				
3 or fewer years	46	17	35	2
4 to 9 years	38	19	38	5
10 to 19 years	35	21	34	9
20 or more years	40	23	31	7

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding. Major fields of study were selected in the order of academic field, subject area education, other education, and general education.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

and most elementary school teachers majored in general education.[9]

Teacher Certification

Teachers' certification status, the second measure of preservice learning examined in this report, is also an indication of teachers' qualifications. In addition to requirements for formal education (e.g., a bachelor's degree), teacher certification includes clinical experiences (e.g., student teaching) and often some type of formal testing.

Most of the full-time public school teachers in 1998 were fully certified in the field of their main teaching assignment; that is, they had either a regular or standard state certificate, or an advanced professional certificate in the field in which they taught most often. Among teachers in general elementary classrooms,[10] 93 percent had a regular or advanced certificate, 3 percent had a provisional certificate, 2 percent a probationary certificate, 1 percent a temporary certificate, and 1 percent had an emergency certificate or waiver (tables 3 and B-4). No general elementary classroom teachers in this study indicated that they were teaching without any kind of certification. Most departmentalized teachers also were fully certified in their main teaching assignment field; 92 percent indicated that they had a regular or advanced certificate in the field in which they taught the most courses (tables 3 and B-5). For the main teaching assignment, 4 percent of the departmentalized teachers had a provisional certificate, 2 percent had a probationary certificate, 1 percent had a temporary certificate, and 1 percent had an emergency certificate or waiver. Less than 0.5 percent of the departmentalized teachers in this study indicated that they were teaching in their main assignment field without any kind of certification. These findings on teachers' certification status essentially replicated those of the 1993-94 study (tables 4, C-4 and C-5).[11]

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[9] There is some evidence from SASS reinterview studies that teachers' recollections of their major field are moderately inconsistent with their SASS questionnaire data. Thus, these data should be interpreted with caution.

[10] The category labeled general elementary classrooms in the 1998 FRSS study includes all teachers of self-contained classrooms, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

[11] These data for both 1998 and 1993-94 may actually slightly overestimate the amount of underqualified teaching, as measured by possession of a regular teaching certificate in the main assignment field, because some teachers who do not have regular certificates in their main assignment field do have regular certificates in another field.

Table 3.—Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1998

Type of teaching certificate	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings: main teaching assignment
Regular or standard state certificate, or advanced professional certificate	93	92
Provisional or other type of certificate given while participating in an "alternative certification program"	3	4
Probationary certificate	2	2
Temporary certificate	1	1
Emergency certificate or waiver	1	1
No certificate	0	*

*Less than 0.5 percent.

[1]The category labeled general elementary classrooms includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Percents are computed down each column, but may not sum to 100 because of rounding. Zeros indicate that no teacher in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table 4.—Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1993-94

Type of teaching certificate	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings: main teaching assignment[2]
Regular or standard state certificate, or advanced professional certificate	94	90
Provisional or other type of certificate given while participating in an "alternative certification program"	2	2
Probationary certificate	2	2
Temporary certificate	1	1
Emergency certificate or waiver	*	*
No certificate	1	4

*Less than 0.5 percent.

[1]The category labeled general elementary classrooms includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

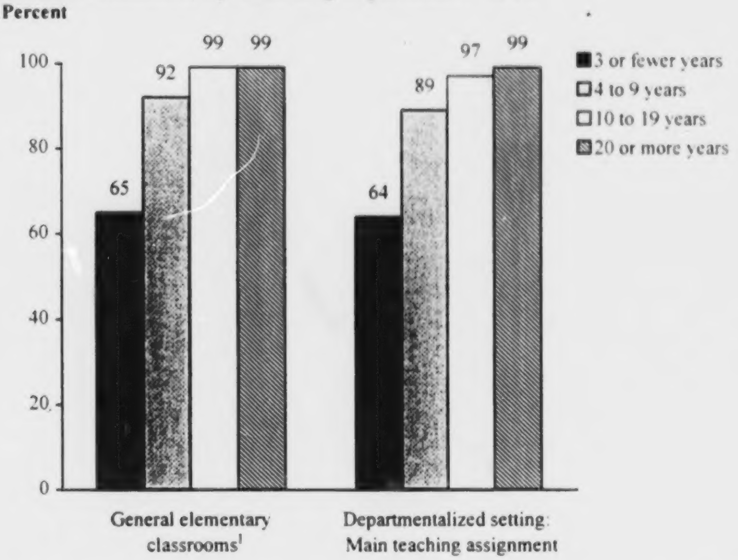
[2]The category labeled departmentalized settings includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

NOTE: Percents are computed down each column, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Data from both the 1998 and 1993-94 studies indicated that possessing a regular, standard, or advanced certificate was positively related to years of teaching experience. Almost all teachers in both studies who had been teaching for 10 or more years, whether in general elementary classrooms or in departmentalized settings, were fully certified in their main teaching assignment, and most of the teachers who had been teaching 4 to 9 years were also fully certified (figures 3 and 4, and tables B-2, B-4, C-4, and C-5). Teachers with 3 or fewer years of experience teaching in both general elementary classrooms and departmentalized settings, however, were much less likely to have a regular, standard, or advanced certificate than were more experienced teachers. Since some states require new teachers to start with probationary certification, all new teachers without regular certification are not necessarily less well qualified than those with regular certification. In 1998, most teachers with 3 or fewer years of experience who did not have regular certification had provisional or probationary certification (tables B-4 and B-5). However, emergency and temporary certification was higher among teachers with 3 or fewer years

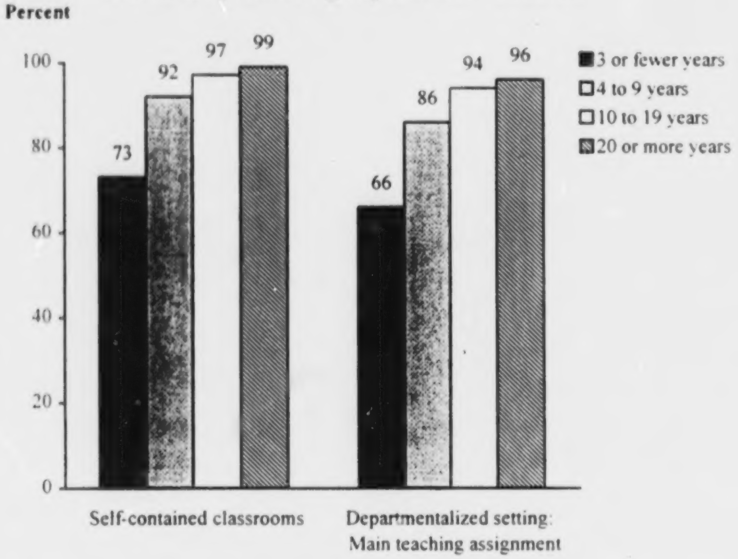
Figure 3.—Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with a regular or standard state certificate or advanced professional certificate, by teaching experience: 1998



[1]The category labeled general elementary classrooms includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Figure 4.—Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with a regular or standard state certificate or advanced professional certificate, by teaching experience: 1993-94



[1]The category labeled general elementary classrooms includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

[2]The category labeled departmentalized settings includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

of experience compared to teachers with more teaching experience. For example, in 1998, 12 percent of general elementary classroom teachers with 3 or fewer years of experience had emergency or temporary certification, whereas less than 1 percent of general elementary classroom teachers with 10 or more years of experience had emergency or temporary certification (not shown in tables). The results are similar for departmentalized teachers.

Teaching Assignment: In-Field Teaching

The final measure of teacher preparation and qualifications addressed in this chapter is teaching assignment. Specifically, the FRSS survey measured the match between teachers' training and teaching assignment in the main assignment field—in-field versus out-of-field teaching. According to Ingersoll (U.S. Department of Education, 1996b), one of the least recognized causes of underqualified teachers is the problem of out-of-field teaching: teachers being assigned to teach subjects that do not match their training or education. Findings from Ingersoll's analysis of the 1990-91 Schools and Staffing Survey showed that nearly a third of all high school math teachers had neither a major nor a minor in mathematics or mathematics education. In addition, almost a quarter of all high school English teachers had neither a major nor a minor in English, literature, communications, speech, journalism, English education, or reading education (U.S. Department of Education, 1996c). Thus, as Ingersoll concludes, a large percentage of high school students were taught by teachers without basic qualifications in the subjects they taught (Ingersoll, 1998).

The 1998 survey and the 1993-94 survey provided data on teaching assignment and teacher education. Calculated the same way for both sets of data, a measure of in-field teaching was constructed to compare the fields in which full-time public school teachers had undergraduate and graduate majors and minors with the fields in which they had their main teaching assignments (i.e., the field in which they reported that they taught the most courses).[12] This measure was constructed for any teacher who taught English/language arts, foreign language, social studies/social science, mathematics, or science in a departmentalized setting in any of grades 7 through 12. Results are presented separately for grades 7 through 12 and grades 9 through 12, since there are different definitions of what constitutes secondary schooling. Because the questionnaire collected information about degrees and teaching assignments at the aggregated field level (i.e., whether a teacher had degrees or taught courses in science, rather than in chemistry or physics), the in-field teaching measure is also constructed at this level of aggregation. Teachers were defined as teaching in field if they had an undergraduate or graduate major or minor in the field of their main teaching assignment. It is important to note that teachers may become qualified to teach a subject in ways that are not measured by college majors and minors. A teacher may take substantial coursework in a field without having an actual major or minor in the field.[13] Details of how the measure of in-field teaching was constructed are provided in appendix A.

The measure of in-field teaching that is presented here differs from some of the other measures frequently seen in publications on this subject. Measures usually focus on out-of-field teaching as a measure of the *mismatch* between teacher assignment and teacher education. For example, Ingersoll (U.S. Department of Education, 1996a) defined an out-of-field teacher as a teacher teaching one or more mathematics, science, social studies, or English classes without at least an undergraduate or graduate-level major or minor in the particular subject. Another approach to studying out-of-field teaching is to examine the proportion of students being taught by out-of-

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[12] A major or minor was considered in field if it was in either the academic field (e.g., mathematics) or subject area education (e.g., mathematics education) that matched the main teaching assignment.

[13] For example, in Pennsylvania, they award a "Master's Degree Equivalency Certificate" that is not the same as an "earned master's degree" (their wording), but is issued to qualify the holder for salary increments provided by law. It requires 36 graduate semester credits, at least half of which must be earned in the content area of the primary teaching assignment. This is as much coursework as may be required for a minor in a content area, yet this coursework will not show up as a major or minor under earned degrees, since the certificate is not considered a degree.

Table 5.—Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	86	96	89	82	88
Locale					
Central city	82	99	85	81	79
Urban fringe/town/rural	88	96	90	83	91
Percent minority enrollment in school					
50 percent or less	87	96	90	84	90
More than 50 percent	83	#	86	76	81
Percent of students in school eligible for free or reduced-price school lunch					
Less than 60 percent	89	96	89	86	90
60 percent or more	76	#	86	69	83

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

field teachers. In this case, Ingersoll (U.S. Department of Education, 1996b) examined the percentage of public secondary school students enrolled in 1990-91 in classes taught by teachers without at least a college minor in the field. In contrast, the measure presented here looks at the main teaching assignments of teachers (i.e., the field in which they taught the most courses). Because FRSS questionnaires are short and designed for quick response, information was not collected at a detailed level about all the courses taught. In addition, the relatively small sample size of the FRSS survey precludes examination of in-field teaching for the secondary teaching assignment, because too few teachers in the sample had a secondary teaching assignment to conduct these analyses.

While examination of in-field teaching in the main teaching assignment gives a general indication of the magnitude of the match between teachers' training and teaching assignment, it does not provide the entire picture, and understates the magnitude of the problem. For example, Bobbitt and McMillen (U.S. Department of Education, 1994b) found that if the focus was restricted to main assignment field contrasted against teachers' college major or minor and certification status, then almost all teachers were qualified to teach in their main assignment field. However, if the focus was changed to include all the classes taught by each teacher, then many fewer teachers were fully qualified to teach in each class subject they were assigned to teach during the day. Thus, it is important to remember when reading the results presented below that the total magnitude of the mismatch between teacher assignment and teacher education is greater than that shown by the results for the main teaching assignment only.

In-Field Teaching Among Teachers in Grades 7 through 12

The percent of 1998 full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field ranged from 82 percent of mathematics teachers to 96 percent of foreign language teachers (tables 5 and B-7). Comparable data from 1993-94 showed a somewhat similar distribution. The percent of the 1993-94 teachers in grades 7 through 12 who reported having an undergraduate major or minor in their main teaching assignment field ranged from 77 percent of

Table 6.—Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	78	93	87	77	82
Locale					
Central city	78	96	89	76	83
Urban fringe/town/rural	78	92	86	77	82
Percent minority enrollment in school					
50 percent or less	79	93	87	78	83
More than 50 percent	74	96	88	71	77
Percent of students in school eligible for free or reduced-price school lunch					
Less than 60 percent	79	93	88	78	83
60 percent or more	70	95	81	70	75

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

mathematics teachers to 93 percent of the foreign language teachers (tables 6 and C-7). In-field teaching for the main teaching assignment in grades 7 through 12 was higher in the 1998 study than in the 1993-94 study for English and science.

A key issue in the literature on equity concerns in educational quality is the extent to which in-field/out-of-field teaching varies by certain school characteristics. Research has found that schools with factors such as a high concentration of poverty or location in an urban or central city area are more likely than more affluent or suburban schools to have higher rates of out-of-field-teaching (U.S. Department of Education, 1996b). The 1998 and 1993-94 data showed some variations in the amount of in-field teaching in the main assignment field by these characteristics. The data in tables 5 and 6 are presented differently than in other tables to allow comparisons among schools by characteristics often targeted in equity research.

In 1998, differences by poverty concentration or percent minority enrollment in the school in the prevalence of in-field teaching for main assignment field were not statistically significant for teachers in grades 7 through 12 (tables 5 and B-7). In-field teaching in science differed by school locale for the 1998 teachers. Science teachers were somewhat less likely to be teaching in field in their main assignment field in schools located in central cities than in schools located in urban fringe, town, or rural areas. The 1993-94 data found that English/language arts teachers were less likely to be teaching in field for their main assignment field in schools with the highest concentration of poverty (as defined by 60 percent or more of students eligible for free or reduced-price lunch) than were English teachers in schools where less than 60 percent of the students were eligible for free or reduced-price lunch (tables 6 and C-7). No significant differences were found by locale or percent minority enrollment in the school for 1993-94 teachers in grades 7 through 12.[14]

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[14] Because of the large standard errors surrounding the estimates of in-field teaching broken out by school characteristics (because of the small number of teachers in each category in the 1998 survey), differences that may appear large may not be statistically significant. In contrast, the sample of teachers in the 1993-94 survey is much larger than it is in the 1998 survey, the standard errors surrounding the 1993-94 estimates are smaller, and, therefore, smaller differences by school characteristics will be statistically significant for the 1993-94 teachers.

Table 7.—Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	96	96	96	90	94
Locale					
Central city	94	100	96	88	90
Urban fringe/town/rural	97	95	96	90	96
Percent minority enrollment in school					
50 percent or less	97	96	96	92	95
More than 50 percent	94	#	97	82	92
Percent of public school students in school eligible for free or reduced-price school lunch					
Less than 60 percent	96	96	96	91	94
60 percent or more	93	#	#	81	#

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

In-Field Teaching Among Teachers in Grades 9 through 12

In-field teaching was also examined separately for teachers in grades 9 through 12, since there are different definitions of what constitutes secondary schooling. The percent of 1998 full-time public school teachers in grades 9 through 12 who reported having a major or minor in their main teaching assignment fields was 90 percent for mathematics teachers, 94 percent for science teachers, and 96 percent for teachers of English/language arts, foreign language, and social studies/social science (tables 7 and B-8). Comparable 1993-94 data showed a somewhat similar distribution. The percent of 1993-94 teachers who reported having a major or minor in their main teaching assignment fields ranged from 87 percent of mathematics teachers to 93 percent of the foreign language teachers (tables 8 and C-8). In-field teaching for the main assignment field in grades 9 through 12 was higher in the 1998 study than in the 1993-94 study for English, social studies, and science. In addition, for both 1998 and 1993-94, the percent of teachers who reported having an undergraduate or graduate major or minor in their main teaching assignment field was significantly lower for teachers of grades 7 through 12 than for teachers of grades 9 through 12 for mathematics, science, English/language arts, and social studies/social sciences, indicating that teachers in grades 7 and 8 are less likely to be teaching in field than are teachers in grades 9 through 12.

Differences by poverty concentration, locale, or percent minority enrollment in the school in the prevalence of in-field teaching for main teaching assignment were not statistically significant for 1998 teachers in grades through 9 through 12. Mathematics teachers in 1993-94 were less likely to be teaching in field in their main assignment area in schools with the highest minority enrollment. No significant differences were found by locale or poverty concentration in the school for 1993-94 teachers in grades 9 through 12.

Table 8.—Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	88	93	92	87	90
Locale					
Central city	86	96	94	84	90
Urban fringe/town/rural	88	93	91	87	90
Percent minority enrollment in school					
50 percent or less	88	93	91	88	90
More than 50 percent	87	95	94	80	87
Percent of students in school eligible for free or reduced-price school lunch					
Less than 60 percent	87	93	92	87	90
60 percent or more	89	95	90	83	91

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Summary

This chapter on preservice learning and teaching assignment began with a description of the concerns and critiques of the current training received by prospective teachers. Criticisms focused on three features of their training and placement—teachers' education, certification, and teaching assignment. In many ways, this report does not address the heart of these critiques—the quality of the teacher education programs that train teachers. This report is about teachers, not the programs and institutions that train them. However, this study did investigate three basic concerns that have received growing attention—that teachers do not have academic majors, that many teachers may not be fully certified, and that a large number of educators are teaching subjects for which they have not received training.

The 1998 study found that 38 percent of the teachers had an undergraduate or graduate major in an academic field. Among high school teachers, however, the percentages were much higher, with two-thirds of high school teachers having majored in an academic field. However, only 22 percent of elementary school teachers had majored in an academic field. These findings paralleled those from 1993-94, where the same patterns emerged. In addition, the 1998 and 1993-94 studies indicated that most teachers were fully certified (with a regular or standard state certificate, or an advanced professional certificate) in the field of their main teaching assignment. Not surprisingly, however, results of the 1998 and 1993-94 surveys indicated that new teachers were less likely than more experienced teachers to have regular certification.

Results of the 1998 survey suggest that teachers possess many of the basic prerequisites for teaching—advanced degrees and the appropriate certification and education. Most teachers in grades 7 through 12 have a major or minor in their *main* teaching assignment field. As suggested earlier, teaching is complex, and the demands continue to change and grow. Meeting these challenges requires teachers to be lifelong learners. Much of their learning, after initial preservice training, takes place on the job. This type of learning is the focus of the next chapter of this report.

3. CONTINUED LEARNING

Teachers' continued learning is the second feature of teacher preparation and qualifications addressed in this report. Continued learning is particularly important because the nation's schools have been increasingly challenged by policy initiatives to "do better, and to do differently" (McLaughlin and Oberman 1996: iv). At the core of educational reforms to raise standards, reshape curricula, and restructure the way schools operate is the call to reconceptualize the practice of teaching (Darling-Hammond and McLaughlin, 1996). American children need a broader range of skills, including higher order thinking skills and technological expertise. Teachers must learn to teach students in ways that promote such skills. At the same time, teachers face the greater challenges of rapidly increasing technological changes, greater diversity in the classroom, and a push to teach in innovative ways (often different from how they were taught and/or from the formal preservice training they received).

In order to meet the changing demands of their jobs, high-quality teachers must be capable and willing to continually learn and relearn their trade. This learning begins prior to entering the classroom (as discussed in the previous section). However, beginning teachers are often not fully prepared for the requirements of classroom teaching (Fullan with Stiegelbauer, 1991). Continued learning, the second aspect of teacher preparation and qualifications addressed in this report, is key to building educators' capacity for effective teaching, particularly in a profession where the demands are changing and expanding. Continued learning takes multiple forms; the two key forms discussed here are formal professional development and collaboration with other teachers.

Formal Professional Development

The first aspect of continued learning, formal professional development, is included in the National Education Goals; Goal 4 states: "By the year 2000, the nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century." The inclusion of a national goal for teacher professional development represents an increased focus on professional development as an important vehicle for school reform and educational excellence (Sprinthall, Reiman, and Theis-Sprinthall, 1996). Some schools and school districts require teachers to participate, and certain states have passed initiatives encouraging or mandating certain types of professional development. In addition, some teachers actively seek their own opportunities for professional development. For example, college coursework completed after a teacher has started teaching is one form of professional development. However, access to professional development activities may vary widely among teachers; for example, there may be more opportunities for participation in districts located in close proximity to a university or college.

Formal professional development typically consists of school and district "staff-development" programs. Teachers often attend classes sponsored by their districts and attend workshops, conferences, and summer institutes. Workshops and conferences are the most typical form of continuing professional development. They are usually designed to meet short-term goals of implementing specific instructional change, such as the integration of technology into classroom teaching.

However, these traditional approaches to professional development (e.g., workshops, conferences) have been criticized for being relatively ineffective because they are usually short term; they lack continuity through adequate followup and ongoing feedback from experts; they are typically isolated from the participants' classroom and school contexts; and they take a passive approach to training teachers, allowing little opportunity to learn by doing and reflecting with colleagues. A core argument is that unless professional development programs are carefully designed and implemented to provide continuity between what teachers learn and what goes on in their classrooms and schools, these activities are not likely to produce any long-lasting effects on either teacher competence or student outcomes (Fullan with Stiegelbauer, 1991). In other words, as traditionally practiced, professional development activities may lack connection to the challenges teachers face in their classrooms.

In order to investigate such issues, the 1998 survey elicited information from teachers regarding their recent participation in professional development programs in each of eight content areas (see figure 5). Because of changes in technology, in the notions of effective teaching, and in the types of students and students' needs teachers encounter in their classrooms, the survey elicited information regarding teachers' formal professional development in such areas as technology, new methods of teaching, state or district curriculum or performance standards, and accommodating students with disabilities or from diverse linguistic or cultural backgrounds. Because there is a good deal of skepticism regarding the value of formal professional development for teachers' work, the survey also requested information regarding the extent to which teachers' felt that these opportunities improved their teaching. Moreover, because limited exposure is one of the criticisms launched at traditional forms of professional development, the survey also asked teachers to indicate the duration of their exposure to different professional development opportunities (i.e., time spent on particular activities). The data indicate that teacher participation in professional development in 1998 was high: almost all of the teachers surveyed in 1998 (99 percent) had participated in professional development programs in at least one of the listed content areas in the last 12 months (not shown in tables).

Teachers in the 1993-94 survey were also asked about their participation in professional development programs in the past 12 months. However, the survey covered five content areas: methods of teaching their subject field, student assessment, cooperative learning in the classroom, uses of education technology for instruction, and in-depth study in their subject field (see figure 6). The data also indicate that an overwhelming majority of teachers (90 percent) participated in professional development activities during 1993-94 (not shown in tables).

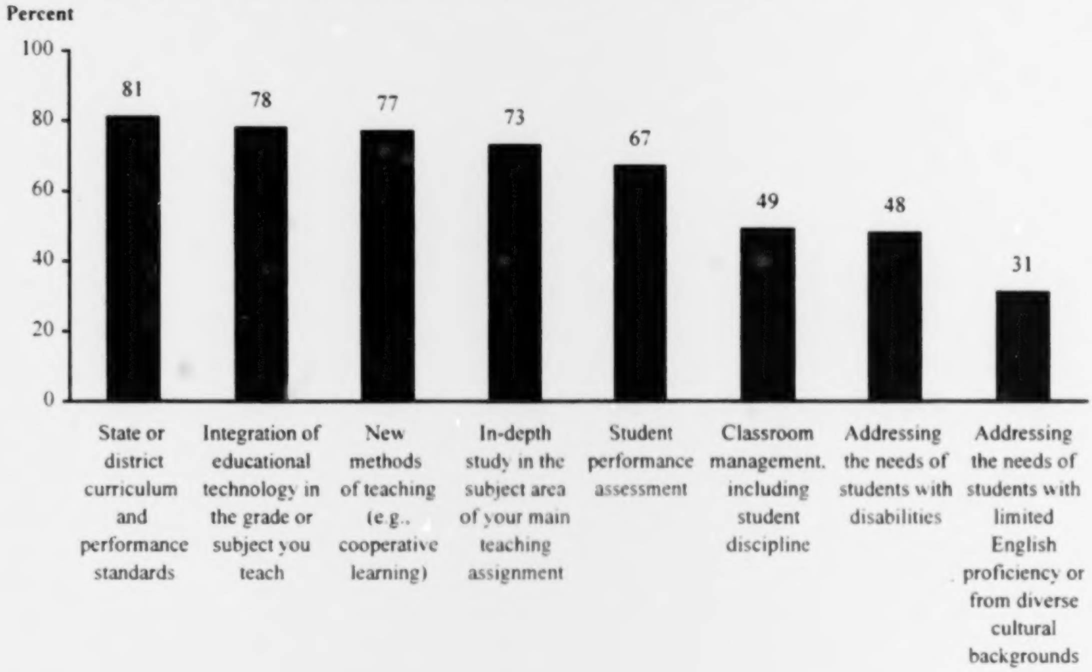
Content of Professional Development

In 1998, teachers were more likely to have participated in professional development activities that appear consistent with the emphasis of education reform to do things differently and better (figure 5). Teachers were more likely to have participated in implementing state or district curriculum and performance standards (81 percent), integrating educational technology into the grade or subject taught (78 percent), implementing new teaching methods (77 percent), doing in-depth study in the subject area of their main teaching assignment (73 percent), and using student performance assessment techniques (67 percent) than in other areas. About half had participated in professional development in classroom management and addressing the needs of students with disabilities. One exception to this pattern is participation in professional development programs that addressed the needs of students with limited English proficiency or from diverse cultural backgrounds; teachers were least likely to have participated in these activities (31 percent).

In 1993-94, teachers were most likely to have recent professional development that appears to emphasize pedagogical skills; 67 percent of teachers had professional development on methods of teaching in their subject field (figure 6). Fewer teachers had any recent professional development in student assessment (55 percent), cooperative learning (53 percent), and uses of educational technology for instruction (51 percent). Teachers were least likely to participate in in-depth study in their subject field (29 percent).

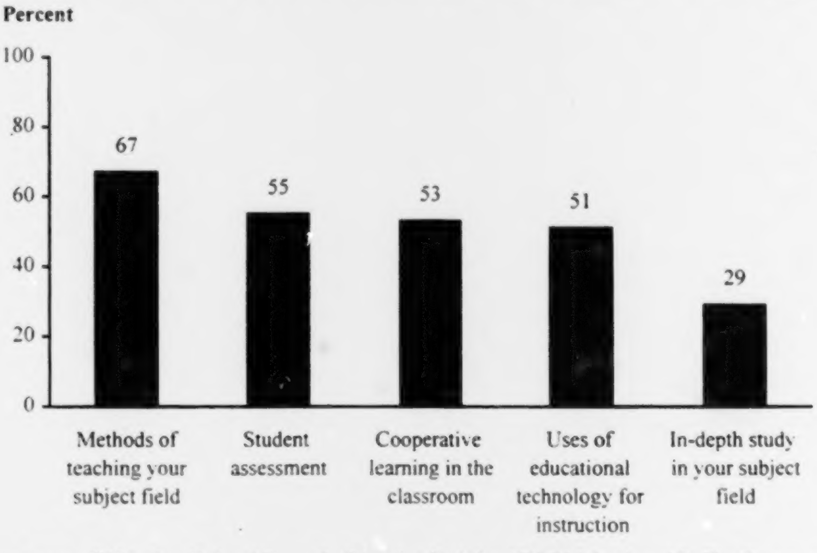
In addition to other issues, addressing the needs of students with limited English proficiency or from culturally diverse backgrounds has recently become a central concern mainly because of growing student populations with these backgrounds. Therefore, teacher training to meet these needs might be particularly important to schools with large minority student populations. In 1998, teacher participation in professional

Figure 5.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months that focused on various topics: 1998



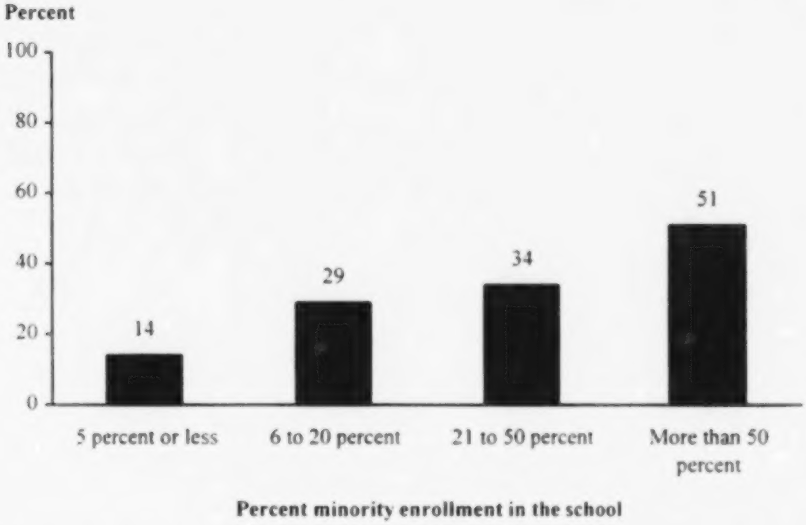
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Figure 6.—Percent of full-time public school teachers who participated in professional development activities since the end of the last school year that focused on various topics: 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Figure 7.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months that addressed the needs of students with limited English proficiency or from diverse cultural backgrounds, by percent minority enrollment in the school: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

development programs that focused on limited English proficient or culturally diverse students generally increased with the percent minority enrollment in the school (figure 7). For example, teachers from schools with more than 50 percent minority enrollment were much more likely than those who taught in schools with 5 percent or less minority enrollment to participate in professional development programs on this topic (51 versus 14 percent).

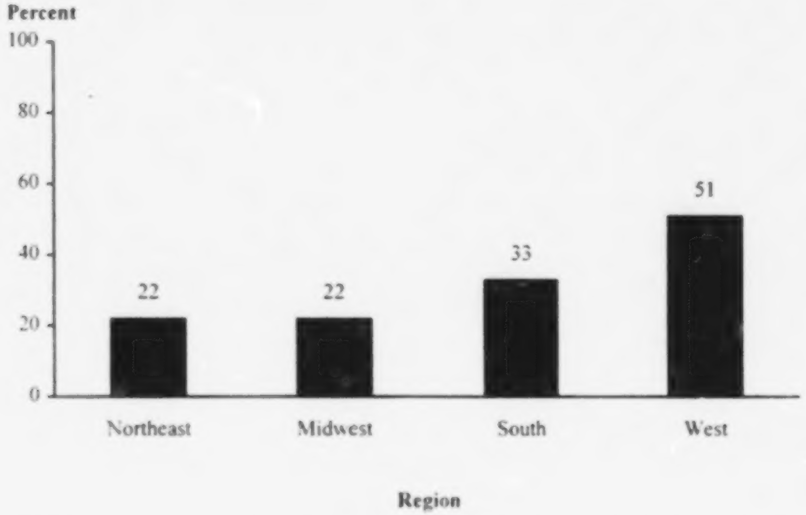
Participation in professional development in programs that addressed the needs of limited English proficient and culturally diverse students also varied by region (figure 8). For example, teachers in the West were far more likely than teachers in the South to have had training in this content area (51 versus 33 percent). Further, teachers in the South were more likely to participate in these programs than those in the Midwest or Northeast.

Professional Development and Teaching Experience

In an era of education reform, continuing professional development is equally relevant for both new and experienced teachers as many aspects of teaching may be changing. Teacher participation in professional development may be influenced by several factors: personal motivation, school or district requirement, and state initiatives requiring or encouraging certain types of professional development. Moreover, while certain kinds of on-the-job training, such as classroom management and curriculum development, may be more relevant to the needs of new teachers than experienced teachers, those who have taught for many years may have a greater need to upgrade their skills in the use of educational technology. It is, therefore, useful to examine whether teaching experience makes a difference to participation in professional development in various content areas.

The data suggest that teaching experience makes little difference to teacher participation in professional development in most of the content areas. One area in which teaching experience was, however, clearly related to teacher participation in professional development was classroom management, including student discipline. The likelihood of participating in professional development programs that focused on classroom management generally decreased

Figure 8.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months that addressed the needs of students with limited English proficiency or from diverse cultural backgrounds, by region: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table 9.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months in various content areas, by teaching experience: 1998

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
State or district curriculum and performance standards	78	84	84	80
Integration of educational technology in the grade or subject you teach	72	79	79	79
New methods of teaching (e.g., cooperative learning)	82	79	78	73
In-depth study in the subject area of your main teaching assignment	77	78	74	67
Student performance assessment	66	72	69	64
Classroom management, including student discipline	65	53	46	43
Addressing the needs of students with disabilities	49	47	50	46
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	36	34	36	25

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

with years of teaching experience (table 9). For example, in 1998, teachers with 3 or fewer years experience were more likely than more experienced teachers to participate in such a program, and those with 4 to 9 years experience were more likely to do so than those who taught for 10 or more years.

In some other areas, teacher participation in professional development differed between the least experienced teachers and those who were very experienced (table 9). For example, in 1998, teachers with 3 or fewer years of experience were more likely than those who had taught for 20 or more years to participate in programs that addressed new methods of teaching (82 versus 73 percent). Newer teachers were also more likely than very experienced teachers to have participated in professional development on in-depth study in the subject area of the main teaching assignment (77 versus 67 percent). Moreover, most experienced teachers (20 or more

Table 10.—Percent of full-time public school teachers who participated in professional development activities since the end of the school year in various content areas, by teaching experience: 1993-94

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
Methods of teaching your subject field	68	73	69	62
Student assessment	56	57	55	53
Cooperative learning in the classroom	53	53	54	52
Uses of educational technology for instruction	46	53	53	51
In-depth study in your subject field	27	30	30	27

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table 11.—Percent of full-time public school teachers indicating the number of hours spent in professional development activities in the last 12 months in various content areas: 1998

Content area	Total hours spent*	
	1 to 8	More than 8
State or district curriculum and performance standards	61	39
Integration of educational technology in the grade or subject you teach	62	38
New methods of teaching (e.g., cooperative learning)	61	39
In-depth study in the subject area of your main teaching assignment	44	56
Student performance assessment	71	29
Classroom management, including student discipline	78	22
Addressing the needs of students with disabilities	81	19
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	70	30

*Percents are based on those who participated in professional development activities in a particular content area.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

years) were less likely than all others to participate in professional development addressing the needs of limited English proficient or culturally diverse students. The 1993-94 data on participation in professional development about teaching methods in the teachers' subject field also showed a difference between the least and most experienced teachers (68 versus 62 percent, table 10).

Intensity of Professional Development Activities

A major criticism of professional development programs is the lack of intensity and followup in traditional staff development programs such as workshops and seminars. The core issue is that these programs are typically too short term to allow for meaningful change in teaching performance.

The 1998 data indicate that participation in professional development programs typically lasted from 1 to 8 hours, or the equivalent of 1 day or less of training (tables 11 and B-9). The content area for which teachers were most likely to spend more than a day of professional development was in-depth study in the subject area of the main teaching assignment (table 11). However, although teachers typically need extended time to pursue research on in-depth studies, slightly more than half of teachers spent more than a day in professional training in this content area (56 percent). The areas in which teachers were least likely to spend more than a day of training were addressing the needs of students with disabilities (19 percent) and classroom management (22 percent).

Table 12.—Percent of full-time public school teachers indicating the number of hours spent in professional development activities since the end of the last school year in various content areas: 1993-94

Content area	Total hours spent*	
	1 to 8	More than 8
Methods of teaching your subject field	57	43
Student assessment	78	22
Cooperative learning in the classroom	73	27
Uses of educational technology for instruction	70	30
In-depth study in your subject field	49	51

*Percents are based on those who participated in professional development activities in a particular content area.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table 13.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998

Content area	Improved classroom teaching			
	A lot	Moderately	Somewhat	Not at all
State or district curriculum and performance standards	12	36	39	13
Integration of educational technology in the grade or subject you teach	21	38	34	6
New methods of teaching (e.g., cooperative learning)	22	42	31	4
In-depth study in the subject area of your main teaching assignment	28	44	26	2
Student performance assessment	17	39	38	6
Classroom management, including student discipline	19	39	35	7
Addressing the needs of students with disabilities	14	36	44	6
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	18	34	40	9

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Teacher participation in professional development in 1993-94 was also likely to be short term, typically lasting from 1 to 8 hours (tables 12 and C-9). Moreover, the content area for which teachers were most likely to spend more than a day of training was in-depth study in the subject area of the main teaching assignment. Teachers were least likely to spend more than a day of professional development on student assessment (22 percent), cooperative learning in the classroom (27 percent), and uses of educational technology for instruction (30 percent).

Perceived Impact of Professional Development

Since the rationale behind professional programs is to provide the forum for teachers to upgrade their knowledge, skills, and practices, it is useful to assess the extent to which participation in these activities helped teachers to achieve these objectives. To gauge the perceived impact of professional development programs, the 1998 survey asked teachers to assess the extent to which their participation in programs in a particular content area improved their teaching. Of those teachers who participated in programs in a particular area, the extent to which they believed it improved their teaching "a lot" ranged from 28 percent for in-depth study to 12 percent for implementing state or district curriculum and performance standards (tables 13 and B-10). Few teachers indicated that a program did not help at all. For every program, 70 to 80 percent of the teachers reported that it was moderately or somewhat effective. For example, for the program that ranked highest in its perceived impact (in-depth study in the subject area of the main teaching assignment), 70 percent of teachers believed that participation improved their

Table 14.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating that the activity improved their teaching a lot, by teaching experience: 1998

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
State or district curriculum and performance standards	12	12	14	11
Integration of educational technology in the grade or subject you teach	19	23	23	21
New methods of teaching (e.g., cooperative learning)	24	24	23	21
In-depth study in the subject area of your main teaching assignment	33	31	28	26
Student performance assessment	20	16	18	17
Classroom management, including student discipline	28	18	17	16
Addressing the needs of students with disabilities	18	13	15	13
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	18	17	17	18

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

teaching moderately (44 percent) or somewhat (26 percent).

Teachers' perceptions about how much participation in various professional development programs improved their teaching were examined against years of teaching experience. For most of the 1998 content areas, teaching experience was not related to teachers' perception that participation in that content area improved their teaching "a lot." The one area in which teaching experience clearly was related was classroom management. Newer teachers were more likely than more experienced teachers to report that professional development in classroom management improved their teaching "a lot" (tables 14 and B-10).

A criticism of short-term professional development programs is that they fail to bring about more long-term change in teachers' competencies for classroom teaching. To further assess the impact of professional development programs, the 1998 data were explored to examine whether the amount of time spent in professional development activities made a difference to perceived teaching improvement.

The number of hours teachers participated in professional development programs was related to how much they believed it improved their classroom teaching (table 15). For every content area, teachers who participated for more than 8 hours believed it improved their teaching more than teachers who participated for 8 hours or less. For example, teachers who spent more than 8 hours in professional development on new methods of teaching in the classroom were more likely than those who spent 1 to 8 hours to report that participation in the program improved their teaching "a lot" (39 versus 12 percent). These patterns suggest that increased time spent in professional development is associated with the perception of significant improvements in teaching.

Collaboration with Other Teachers

Collaboration with other teachers is the second feature of teachers' continued learning addressed in this report. Unlike traditional professional development activities, peer collaboration has been heralded by teachers, researchers, and policymakers as essential to teachers' continuous learning. Initiatives to improve the quality and efficacy of continued learning emphasize the development of learning communities within and across schools and highlight the importance of these mechanisms to foster teacher learning.

Opportunities for collaboration include those that are provided within the school and those that occur within professional networks across schools and other institutional structures. Teacher participation in school-based activities is likely to produce positive and long-lasting change because such activities provide the basis for

Table 15.—Percent of full-time public school teachers indicating the extent to which participation in professional development activities in various content areas improved their classroom teaching, by the number of hours spent in professional development in that content area in the last 12 months: 1998

Content area	Improved my teaching			
	A lot	Moderately	Somewhat	Not at all
State or district curriculum and performance standards				
1 to 8 hours	7	34	44	15
More than 8 hours	20	39	31	10
Integration of educational technology in the grade or subject you teach				
1 to 8 hours	12	36	44	8
More than 8 hours	38	43	17	2
New methods of teaching (e.g., cooperative learning)				
1 to 8 hours	12	43	40	6
More than 8 hours	39	41	18	2
In-depth study in the subject area of your main teaching assignment				
1 to 8 hours	12	47	38	3
More than 8 hours	41	41	17	1
Student performance assessment				
1 to 8 hours	10	37	45	7
More than 8 hours	35	41	20	3
Classroom management, including student discipline				
1 to 8 hours	13	39	40	8
More than 8 hours	40	41	14	5
Addressing the needs of students with disabilities				
1 to 8 hours	8	37	49	7
More than 8 hours	42	32	23	3
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds				
1 to 8 hours	9	34	47	10
More than 8 hours	38	34	23	5

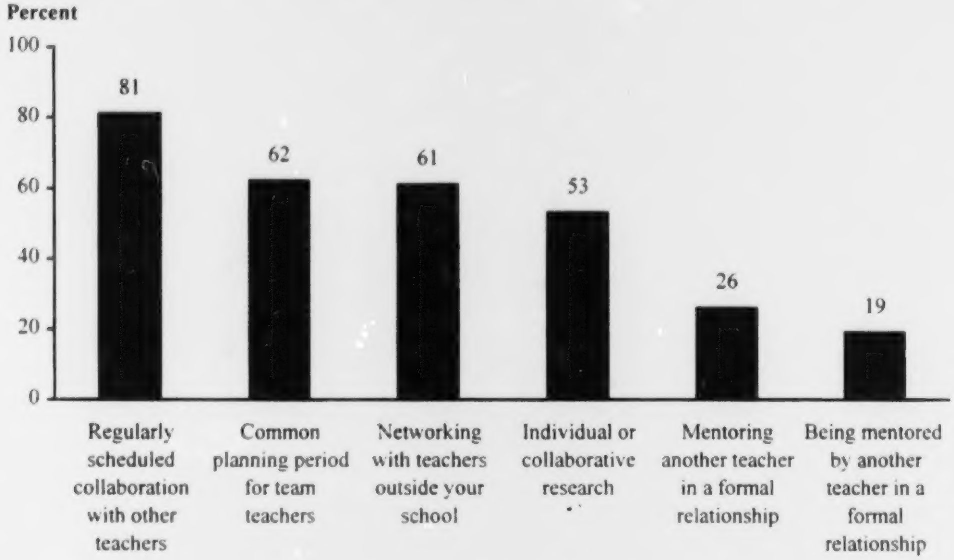
NOTE: Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

transformative learning. Such collaboration revolves around joint work and teacher networks. Joint work such as team teaching, mentoring, and formally planned meetings are important mechanisms for productive exchange of ideas and reflection about practice. For instance, the focus on specific subject matter and teaching strategies helps teachers to improve their content knowledge and pedagogical skills. Mentoring is an effective mechanism for one-to-one professional guidance and for cultivating a teaching culture in which expert teachers serve as an essential resource for new teachers. All of these teaching-related activities are consistent with the view of professional development as a lifelong, inquiry-based collegial process rooted in the development of schools as collaborative workplaces.

Collaborative relationships may extend beyond classrooms and school buildings to school-university collaborations or partnerships, teacher-to-teacher and school-to-school networks, and participation in district, regional, or national task forces. These communities can be organized across subject matter, pedagogical issues, and significant school reforms. These networks can be powerful learning tools to engage professionals in collective work and allow teachers to go beyond their own classrooms and schools to engage in professional discourse about their own experiences and the experiences of others.

Figure 9.—Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Participation in Collaborative Activities

To provide a national profile of teachers' peer collaboration, the 1993-94 survey asked teachers about their participation in the last 12 months in various mentoring and collaborating activities related to teaching, and the extent to which they felt each of these activities improved their teaching. These activities were:

- A common planning period for team teachers;
- Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes;
- Being mentored by another teacher in a formal relationship;
- Mentoring another teacher in a formal relationship;
- Networking with teachers outside your school; and
- Individual or collaborative research on a topic of interest to you professionally.

Almost all (95 percent) of the teachers had participated in at least one of the listed activities in the last 12 months (not shown in tables). Regularly scheduled collaboration with other teachers was the activity in which teachers were most likely to have participated, with four out of five teachers reporting such collaborations in the last 12 months (figure 9). About 60 percent of the teachers had participated in common planning periods for team teachers and networking with teachers outside the school, and about half reported involvement in individual or collaborative research.[15]

Mentoring can be an important way for teachers to share information and experiences about teaching in a one-on-one relationship. Such relationships may be particularly useful to new teachers as they seek to develop effective teaching practices. The study found that about a quarter of the teachers indicated that they had mentored another teacher in a formal relationship in the last 12 months, and 19 percent said that they had been mentored by another teacher in

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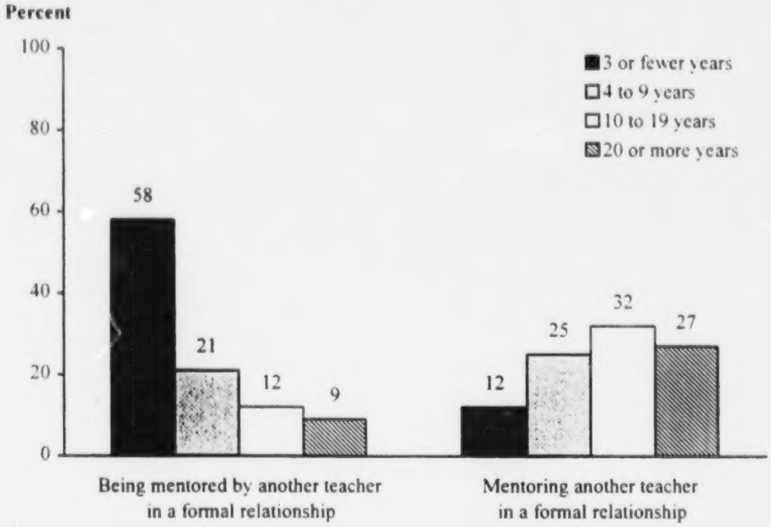
[15] While this section deals with teacher collaboration, individual or collaborative research is discussed here because the item was included in the set of questions that asked about collaborative activities.

Figure 10.—Percent of full-time public school teachers who participated in mentoring activities in the last 12 months, by teaching experience: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

such a relationship (figure 9). The relatively low levels of teacher participation in mentoring reflect a pattern in which newer teachers were more likely than more experienced teachers to be mentored. The likelihood of mentoring and of being mentored by another teacher varied substantially by years of teaching experience (figure 10). Teachers with 3 or fewer years of teaching experience were the most likely to have been mentored by another teacher in the last 12 months and the least likely to have acted in the role of mentor to another teacher. In fact, almost three out of five new teachers had been mentored by another teacher in the last year, suggesting that schools and/or teachers recognize the importance of such relationships early in a teacher's career.

Frequency of Participation

Teachers were also asked how frequently they had participated in the activities, within a range of at least once a week to a few times a year; survey results showed considerable variation on this dimension (table 16). Among teachers who reported engaging in a particular activity, they participated the most frequently in common planning periods for team teachers, with 60 percent participating at least once a week. This was followed by mentoring another teacher in a formal relationship (42 percent) and engaging in regularly scheduled collaboration with other teachers (34 percent). While many teachers (61 percent) indicated that they had participated in networking with other teachers outside the school (figure 9), the frequency of this kind of activity was low; 60 percent of these teachers reported such interactions only a few times a year.

Perceived Effect of Participation

Teachers who reported participating in an activity were also asked to indicate the extent to which they believed the activity improved their classroom teaching. In general, participation in most activities was perceived to improve classroom teaching moderately or somewhat; few teachers believed that participation in a particular activity did not help their teaching at all (tables 17 and B-12). Moreover, 40 percent of teachers who had a common planning period for team teachers believed that this opportunity improved their classroom teaching a lot, while one-third reported experiencing similar benefits from individual or collaborative research, or from being mentored by another teacher.

Table 16.—Percent of full-time public school teachers who participated in activities related to teaching in the last 12 months, by frequency of participation: 1998

Activity	Frequency of participation*			
	A few times a year	Once a month	2 to 3 times a month	At least once a week
Regularly scheduled collaboration with other teachers	23	21	22	34
Common planning period for team teachers	15	11	14	60
Networking with teachers outside your school	60	18	12	10
Individual or collaborative research on a topic of interest professionally	48	16	18	19
Mentoring another teacher in a formal relationship	29	12	17	42
Being mentored by another teacher in a formal relationship	46	14	17	24

*Percents are based on those who participated in a particular activity related to teaching.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table 17.—Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998

Activity	Improved classroom teaching			
	A lot	Moderately	Somewhat	Not at all
Regularly scheduled collaboration with other teachers	29	35	31	5
Common planning period for team teachers	40	33	23	4
Networking with teachers outside your school	23	33	41	4
Individual or collaborative research on a topic of interest professionally	34	35	29	2
Mentoring another teacher in a formal relationship	19	30	39	11
Being mentored by another teacher in a formal relationship	34	27	32	7

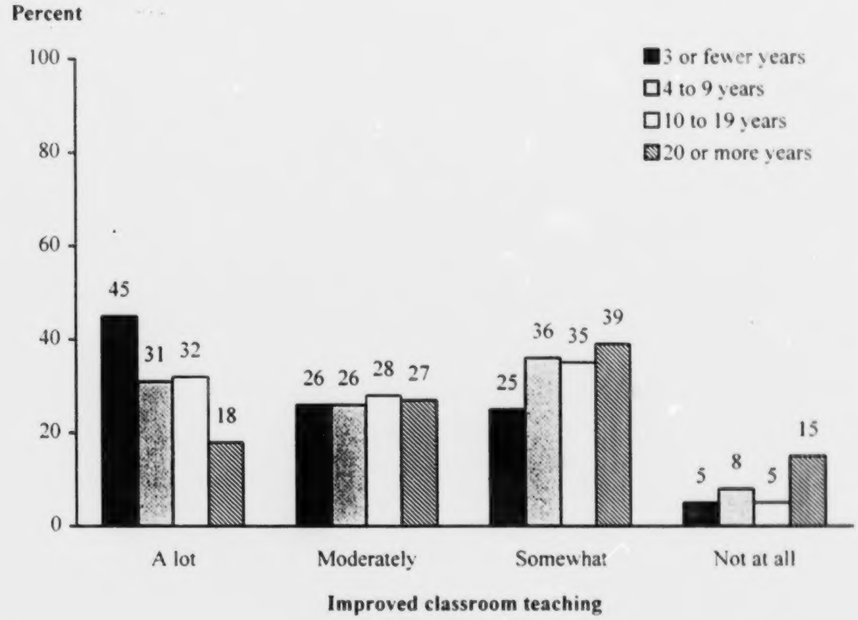
NOTE: Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Being mentored by another teacher was not only a more frequent occurrence for beginning teachers, but it was generally perceived to be of more benefit to their teaching as well. Among teachers who had been mentored in the last 12 months, 45 percent with 3 or fewer years of experience believed it improved their teaching “a lot,” compared with 18 percent of teachers with 20 or more years of teaching experience (figure 11 and table B-12). This again suggests the importance of such relationships early in a teacher's career. In addition, more experienced teachers may be mentored for different reasons and therefore may not have the same experience with being mentored.

Frequency of participation in a collaborative activity was generally positively related to teachers' beliefs about the extent to which the activity improved their classroom teaching (table 18). For example, the extent to which participation in a common planning period for team teachers was perceived to improve teaching “a lot” ranged from 13 percent for those who participated a few times a year to 52 percent for those who were involved in the activity at least once a week. Thus, frequent participation in a mentoring or collaborating activity was more likely to lead to the perception of improved classroom teaching.

Figure 11.—Percent of full-time public school teachers indicating the extent to which being mentored improved their classroom teaching, by teaching experience: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Summary

This chapter began with the premise that high-quality teachers are lifelong learners. This assumption is based on the recognition that teaching is a complex profession with changing and growing demands. In order to meet the demands they face in their classrooms, teachers must be willing and capable to learn and relearn their trade. Opportunities for continued learning addressed in this chapter—formal professional development and collaboration with other teachers—are two key features of teacher learning.

Results of the 1998 survey indicate that teacher participation in formal professional development is high; almost all teachers had recent training in at least one of the listed content areas. Moreover, teachers were more likely to have had recent training in programs that seem consistent with the challenge to do things differently and better; these programs focused on topics such as the implementation of state and district curricula, the integration of technology into classroom instruction, and the implementation of new teaching methods. However, in spite of increasing classroom diversity in our schools, teachers were least likely to have had recent professional development that addressed the needs of limited English proficient or culturally diverse students.

The data suggest that although continued learning is equally relevant for new and experienced teachers, the specific needs for training in some content areas may vary by years of teaching experience. For example, newer teachers were more likely than very experienced teachers to participate in professional development that focused on classroom management and teaching methods, reflecting a strong need for training on these topics during the early years of teaching.

Teacher participation in professional development programs was typically short, lasting for the equivalent of one day or less of training. Moreover, a key finding was that increased time spent in professional development was associated with the perception of significant improvements in teaching. For every content area, teachers who

Table 18.—Percent of full-time public school teachers indicating the extent to which participation in activities related to teaching improved their classroom teaching, by the frequency with which they participated in that activity in the last 12 months: 1998

Activity	Improved my teaching			
	A lot	Moderately	Somewhat	Not at all
Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes				
A few times a year	15	22	54	9
Once a month	16	41	38	6
2 to 3 times a month	26	46	25	3
At least once a week	49	33	15	2
Common planning period for team teachers				
A few times a year	13	29	47	11
Once a month	26	38	29	7
2 to 3 times a month	31	42	23	4
At least once a week	52	31	16	2
Networking with teachers outside your school				
A few times a year	15	29	51	5
Once a month	24	39	34	2
2 to 3 times a month	36	43	20	1
At least once a week	49	31	18	3
Individual or collaborative research on a topic of interest to you professionally				
A few times a year	22	38	38	2
Once a month	26	46	26	2
2 to 3 times a month	46	31	21	2
At least once a week	62	23	15	*
Mentoring another teacher in a formal relationship				
A few times a year	9	32	47	12
Once a month	20	22	41	16
2 to 3 times a month	15	34	40	11
At least once a week	28	30	33	8
Being mentored by another teacher in a formal relationship				
A few times a year	11	25	50	13
Once a month	31	39	23	7
2 to 3 times a month	50	31	19	0
At least once a week	70	18	11	1

*Less than 0.5 percent.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

participated for more than 8 hours were far more likely than those who participated for fewer hours to report that the activity improved their teaching.

Participation in collaborative activities was also perceived to yield positive outcomes for classroom teaching. Most teachers felt that collaborative activities helped improve their teaching to some degree. Moreover, the frequency of participation in a collaborative activity was generally positively related to teachers' beliefs about the extent to which the activity improved their classroom teaching. For example, 70 percent of teachers who were mentored at least once a week reported that it improved their teaching "a lot."

Formal professional development and collaboration with other teachers are important features of teacher learning. However, these experiences are most beneficial when coupled with a supportive work environment. Teachers' work environment is the focus of the next chapter.

4. SUPPORTIVE WORK ENVIRONMENT

Teachers' work environment is the final aspect of teacher quality addressed in this report. The model for thinking about teacher quality (presented in the introduction chapter) began with different types of teacher learning and ended with the support teachers receive to pursue continued learning. This model suggests that in addition to teacher learning (both preservice and continued), one key factor to understanding teacher quality is focusing on what happens to teachers once they enter the work force, including if they receive support from the schools and communities in which they work (e.g., induction programs for new teachers and the number of students for whom teachers are responsible) and from the parents of the children they teach.

Three features of teachers' work environment were measured in the 1998 survey: (1) induction programs; (2) class size; and (3) teachers' perceptions of parent and school support.

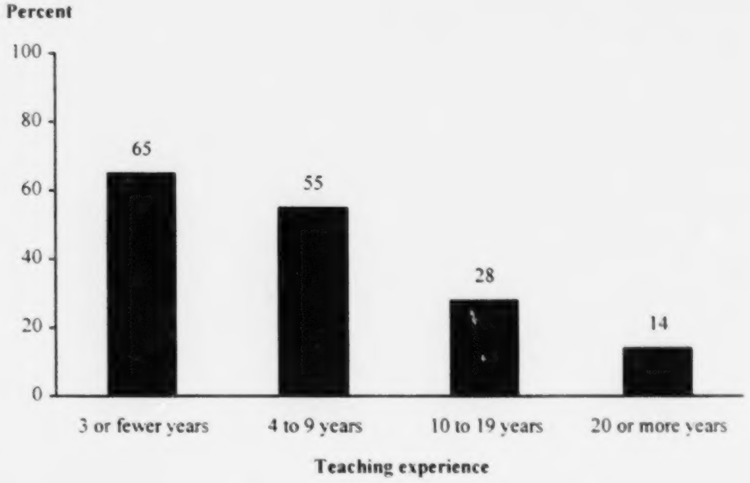
Induction Programs

Formal induction programs, particularly for new teachers, are the first feature of teachers' work environment investigated here. Induction programs are typically designed to both improve teaching skills of beginning teachers and reduce attrition. Providing support for beginning teachers in U.S. schools has been the focus of increasing attention since the mid-1980s, mainly because attrition rates among new teachers are often much higher than among experienced teachers. This suggests that the transition into teaching is difficult for beginning teachers (Asian-Pacific Economic Cooperation, 1997). Often, new teachers are hired at the last minute, isolated in their classrooms, and provided little assistance with their often overwhelming duties (Asian-Pacific Economic Cooperation, 1997). From a policy standpoint, induction may increase the efficacy and retention of quality teachers because it has the potential to help new teachers cope with classroom realities and adjust to school environments. By providing continuity and support to beginning teachers' transition into teaching, induction programs may address a critical stage of the career-long continuum of teacher professional development.

Comprehensive induction programs are often tied to certification. In general, these programs emphasize instructional support in the form of skills, knowledge, and strategies for effective classroom teaching, and psychological support in the form of encouraging confidence building (Gold, 1996). These initial experiences exert a powerful influence in anchoring new teachers' feelings and perceptions about their capabilities and future careers. Teacher participation in an induction program is, therefore, a useful indicator of the extent to which elementary and secondary public schools are addressing the issue of training and retaining quality teachers.

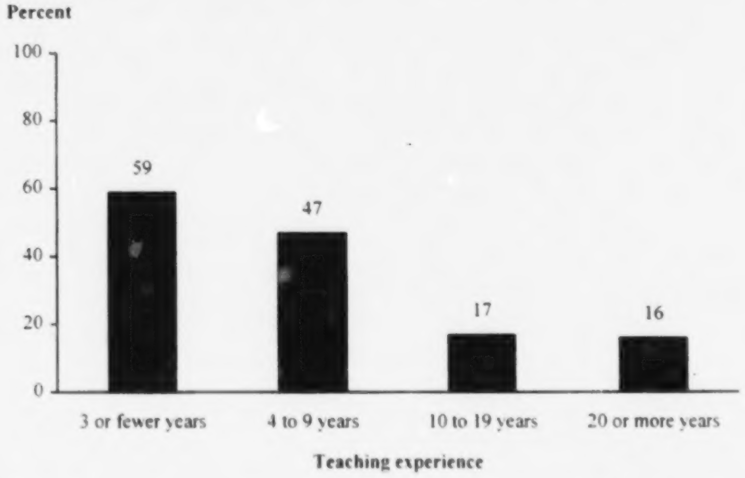
The 1998 survey asked teachers to indicate if, when they first began teaching, they participated in a formal induction program (e.g., a program to help beginning teachers by assigning them to master or mentor teachers). Thirty-four percent of full-time public school teachers in the 1998 study indicated that they had participated in such a program (table B-13). The 1993-94 survey asked a similar question and found that 28 percent of full-time public school teachers had participated in an induction program during their first year (table C-10). Participation in an induction program varied considerably by teaching experience (figure 12 and table B-13). Newer teachers were more likely to have participated in an induction program than were more experienced teachers, ranging from 65 percent of teachers with 3 or fewer years of experience to 14 percent of teachers with 20 or more years of experience. The 1993-94 data showed similar findings, with less experienced teachers being more likely to have had a formal induction into teaching than teachers with more experience (figure 13). Teachers with 3 or fewer years of experience were more likely to have participated in an induction program in 1998 than in 1993-94 (65 percent compared with 59 percent), suggesting that there may be more emphasis on induction programs in recent years.

Figure 12.—Percent of full-time public school teachers who participated in a formal induction program when they first began teaching, by teaching experience: 1998



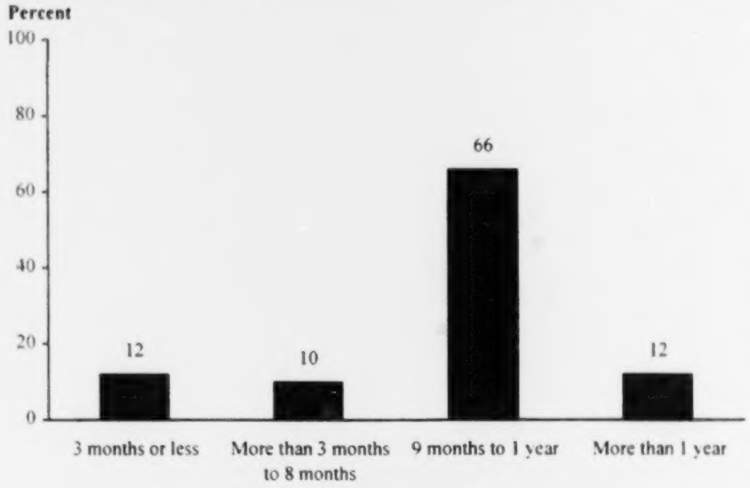
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Figure 13.—Percent of full-time public school teachers who participated in a formal induction program during their first year of teaching, by teaching experience: 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Figure 14.—Percent of full-time public school teachers indicating the length of the formal induction program in which they participated when they first began teaching: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Teachers in the 1998 study who participated in an induction program were asked to write in the length of that program. Two-thirds of the teachers indicated that they participated in induction programs that lasted from 9 months to a year (figure 14). Some of the induction programs in which teachers participated lasted more than a year (12 percent of the teachers), while some were quite short, lasting 3 months or less (also 12 percent of the teachers). The remaining 10 percent of the teachers participated in induction programs that were more than 3 months through 8 months in length. Unfortunately, it is not possible to determine the intensity or usefulness of the induction program from its length. In fact, comments written in on the questionnaire by some teachers indicated that some programs that lasted for a year actually involved relatively little interaction with the master or mentor teacher to whom they were assigned, such as a few meetings between the teachers over the course of the year.

Class Size

The second feature of the work environment examined in this report is class size. Reducing class size is among President Clinton's priorities as outlined in his Education and Training Priorities for the Fall (August 1998). The relevance of class size to student outcomes is a hotly debated issue that has come to the forefront of current policy initiatives. Common-sense appeal and considerable research evidence suggest that smaller classes contribute to improved student performance, especially for elementary school students and students who are at risk. Others contend that the lack of consistent research evidence makes it difficult to justify the cost of implementing across-the-board reductions in class size. However, there is some agreement that class size matters when certain sizes are compared (very large and very small classes) and when some populations are considered (students disadvantaged by poverty and disabilities). Moreover, research shows that teachers prefer smaller classes (U.S. Department of Education, 1997). Although the academic debate continues and despite the substantial costs involved, many states and the federal government have taken initiatives to reduce class size.

Both the 1998 and 1993-94 surveys asked teachers about the number of students taught. From this information, average class size was calculated. In 1998, the average class size for full-time public school teachers in general elementary classrooms[16] was 23 students; it was

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[16] The category labeled general elementary classrooms for the 1998 FRSS study includes all teachers of self-contained classrooms, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

Table 19.—Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1998

School characteristic	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings
All targeted public school teachers[2]	23	24
Locale		
Central city	23	25
Urban fringe/large town	23	25
Rural/small town	21	22
Region		
Northeast	23	23
Midwest	22	23
South	22	23
West	23	28
Percent minority enrollment in school		
5 percent or less	22	23
6 to 20 percent	23	24
21 to 50 percent	23	24
More than 50 percent	23	25
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	23	24
15 to 32 percent	22	24
33 to 59 percent	22	24
60 percent or more	23	24

[1] The category labeled general elementary classrooms includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

[2] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

24 students for teachers in departmentalized settings (tables 19 and B-14). In 1993-94, the average class size for full-time public school teachers was 24 students for both general elementary classrooms[17] and departmentalized settings[18] (tables 20 and C-11). Thus, average class size was larger for teachers in 1993-94 than in 1998 for teachers in general elementary classrooms, but not for teachers in departmentalized settings. This difference in class size for general elementary classrooms may represent an actual decrease in class size over time, due to factors such as increased emphasis on smaller classes in recent years. Alternatively, this difference may be due to methodological differences between the studies, such as the different ways in which the class size information was collected on the questionnaires, or differences in data collection procedures.[19] Both studies did, however, show some of the same general patterns of differences by school characteristics.

Average class size was found to differ by school locale. The 1998 data indicate that for both general elementary and departmentalized teachers, teachers in rural areas and small towns had smaller classes, on average, than did teachers in central cities or in urban fringe areas or large towns (tables 19 and B-14). Teachers in 1993-94 also showed differences by locale (tables 20 and C-11), with both general elementary and departmentalized classrooms in rural areas and

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[17] The category labeled general elementary classrooms for the 1993-94 SASS study includes the teachers who indicated that their main teaching assignment was general elementary.

[18] The category labeled departmentalized settings for the 1993-94 SASS study includes the teachers who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

[19] See appendix A for a discussion of comparisons between the two surveys.

Table 20.—Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1993-94

School characteristic	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings[2]
All targeted public school teachers[3]	24	24
Locale		
Central city	25	25
Urban fringe/large town	25	24
Rural/small town	23	22
Region		
Northeast	24	22
Midwest	23	23
South	23	24
West	27	26
Percent minority enrollment in school		
5 percent or less	23	23
6 to 20 percent	24	23
21 to 50 percent	24	24
More than 50 percent	24	25
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	24	24
15 to 32 percent	24	23
33 to 59 percent	24	24
60 percent or more	24	24

[1] The category labeled general elementary classrooms includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

[2] The category labeled departmentalized settings includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

NOTE: Approximately 5 percent of the teachers were excluded from the SASS class size analyses, either because they taught "pull-out" classes, where they provided instruction to students who were released from their regular classes (2 percent), or because of reporting problems in their class size information (3 percent).

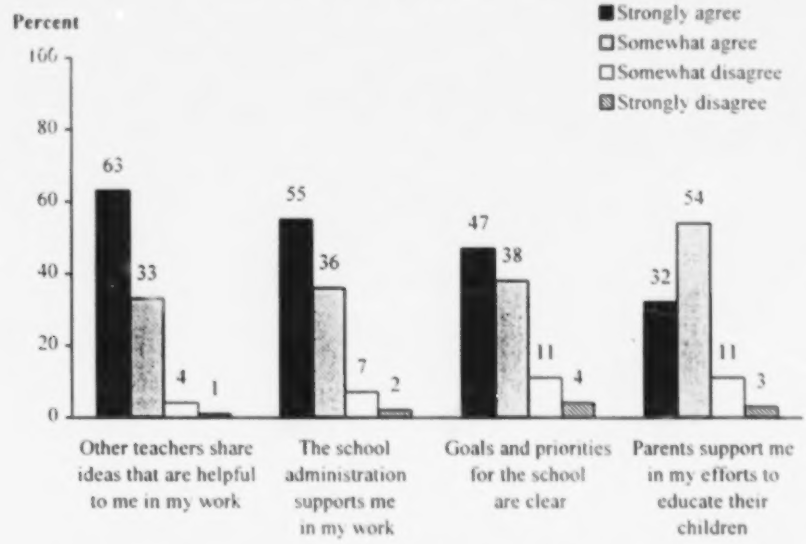
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

small towns smaller on average than those located in central cities or in urban fringe areas or large towns.

Average class size also varied by region. In 1998, departmentalized teachers in the West taught an average of 28 students in a class, compared with an average of 23 students in the other regions. In 1993-94, average class size also differed by region, although the pattern was somewhat different for general elementary and departmentalized teachers. For general elementary teachers, teachers in the West had the largest class sizes. For departmentalized teachers, average class size differed for each region, ranging from 22 to 26 students. Teachers in the West had the largest classes, followed by teachers in the South, then teachers in the Midwest, and then teachers in the Northeast.

In addition, average class size varied by minority enrollment in the school. In 1998, departmentalized teachers in schools with very low minority enrollment (5 percent or less) had smaller classes, on average, than did teachers at schools with minority enrollments of 6 to 20 percent and 21 to 50 percent, who in turn taught smaller classes than did teachers at schools with more than 50 percent minority enrollment. Average class size also showed differences by minority enrollment for teachers in 1993-94. For departmentalized teachers, teachers in schools with minority enrollments of 5 percent or less taught smaller classes, on average, than did teachers in schools with minority enrollments of

Figure 15.—Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

21 to 50 percent and more than 50 percent. General elementary teachers showed this same pattern. In addition, departmentalized teachers in schools with 6 to 20 percent minority enrollment had smaller classes than did teachers at schools with more than 50 percent minority enrollment.

Parent and School Support

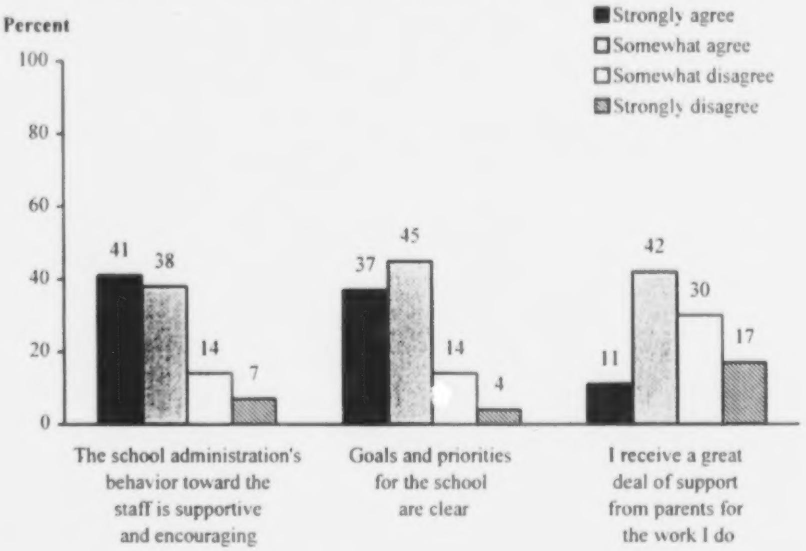
The final aspect of teachers' work environment addressed in this report is teachers' perceptions of parent and school support. These indicators have been included in this chapter based on the premise that effective teaching requires support beyond that typically available to teachers working alone in isolated classrooms (Newmann, 1994). According to the Center on Organization and Restructuring of Schools (Kruse, Louis, and Bryk, 1994: 5): "Teachers must feel they are honored for their expertise—within the school as well as within the district, the parent community and other significant groups."

The 1998 survey asked teachers to indicate the extent to which they agreed or disagreed with four statements about supportive working conditions: one statement about the extent to which goals and priorities of the school are clear, and three statements about the extent to which teachers receive support from other teachers, school administrators, and parents. Teachers in the 1993-94 study were asked similar questions for three of these areas, although only the statement about goals and priorities for the school was exactly the same in the two surveys.

In 1998, most of the teachers believed that goals and priorities for the school were clear, with 47 percent agreeing strongly and 38 percent agreeing somewhat with this statement (figure 15). In 1993-94, most teachers also believed that the goals and priorities for the school were clear, with 37 percent agreeing strongly and 45 percent agreeing somewhat (figure 16). Teachers in 1998 and 1993-94 did differ in whether they *strongly* agreed that the school's goals and priorities were clear, but methodological artifacts, such as the response contexts for the items, could contribute to the difference.

Collegial support is key to creating and sustaining a collaborative environment. Apart from the school administration's responsibility to nurture such an environment, it can exert a strong influence on teacher commitment and job satisfaction by providing one-to-one support to teachers. It is therefore important to examine the extent to which teachers feel supported by other

Figure 16.—Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers: 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

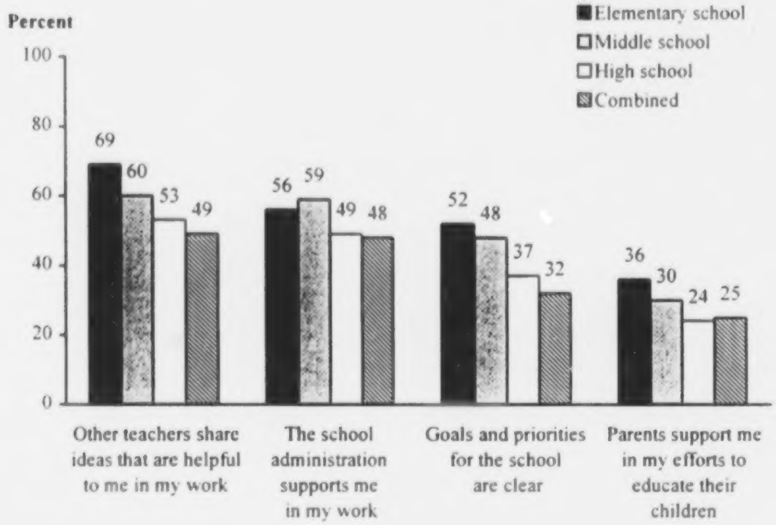
teachers and the school administration. In response to the statement about collegial support, most teachers in 1998 felt that other teachers shared ideas with them that were helpful in their teaching; 63 percent of teachers strongly agreed with this statement, and 33 percent somewhat agreed with it (figure 15 and table B-15).

In 1998, most teachers felt supported by the school administration, with 55 percent of teachers agreeing strongly and 36 percent agreeing somewhat that the school administration supported them in their work (figure 15 and table B-15). Most teachers in 1993-94 also felt that the school administration was supportive; 41 percent of teachers agreed strongly and 38 percent agreed somewhat that the school administration's behavior toward them was supportive and encouraging (figure 16 and table C-12).

Support from parents provides a necessary link between home and school, laying the foundation for a partnership that serves to engage student, parent, and teacher commitment. The 1998 and 1993-94 data showed that teachers perceived somewhat less support from parents than from other teachers (1998) and the school administration (both studies). For example, in 1998, 32 percent of teachers in 1998 agreed strongly and 54 percent agreed somewhat that parents supported them in their efforts to educate their children (figure 15 and table B-15). The 1993-94 study asked a somewhat differently worded question about parental support: teachers were asked to indicate the extent to which they agreed or disagreed with the statement that they receive "a great deal of support" from parents for the work they do (as compared with "parents support me in my efforts to educate their children" in 1998). For teachers in 1993-94, 11 percent agreed strongly and 42 percent agreed somewhat with this statement, and 30 percent disagreed somewhat and 17 percent disagreed strongly that they received a great deal of support from parents (figure 16 and table C-12).

In 1998, teachers' perceptions of collegial and school support varied by the instructional level of the school, with elementary school teachers perceiving stronger collegial and school support than high school teachers (figure 17 and table B-15). For example, 69 percent of elementary school teachers compared with 53 percent of high school teachers strongly agreed that other teachers shared ideas that were helpful to their teaching. The 1993-94 data also showed some

Figure 17.—**Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by school instructional level: 1998**



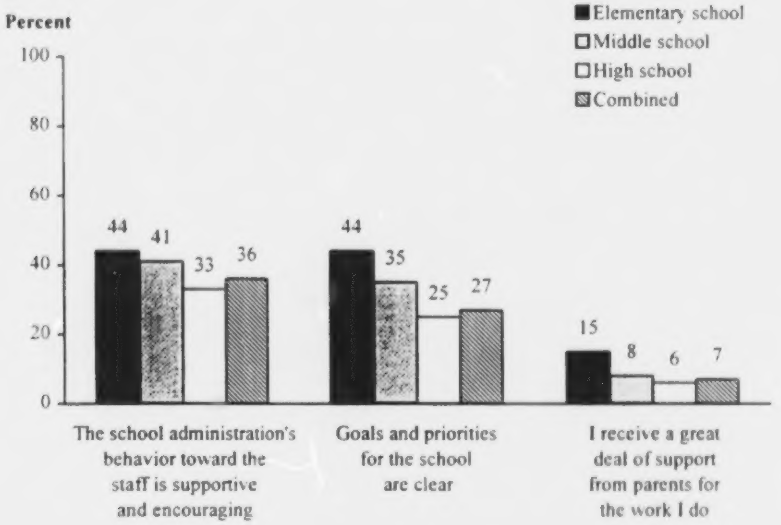
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

variation in perceived school support by the instructional level of the school (figure 18 and table C-12), with elementary school teachers perceiving more support than high school teachers. For example, 44 percent of elementary school teachers compared with 33 percent of high school teachers strongly agreed that the school administration's behavior toward the staff was supportive and encouraging.

Teachers' perceptions of parental support also varied by the instructional level of the school. For example, 36 percent of 1998 elementary school teachers compared with 24 percent of high school teachers strongly agreed that parents support them in their efforts to educate their children (figure 17 and table B-15). For 1993-94, teachers' perceived support from parents, while low overall, also showed this pattern of variation by instructional level, with 15 percent of elementary school teachers compared with 6 percent of high school teachers strongly agreeing that they received a great deal of support from parents for the work that they do (figure 18 and table C-12).

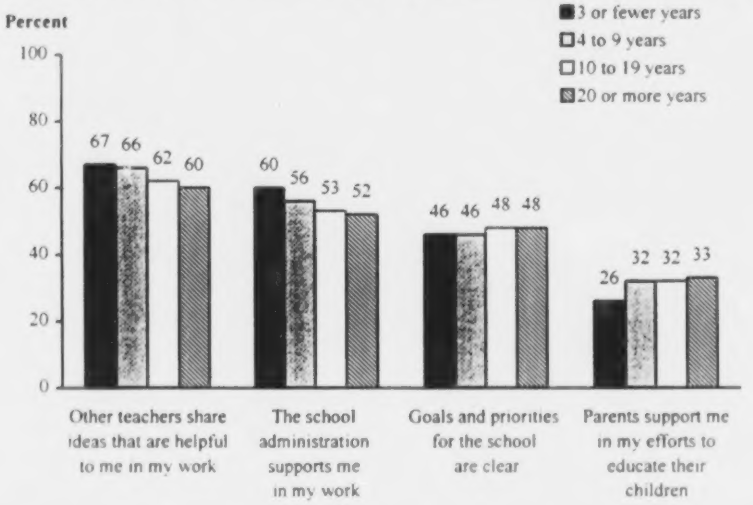
In 1998, teachers' perceptions of parent and school support also showed some variation by years of teaching experience. Less experienced teachers perceived more support from other teachers and the school administration, and less support from parents, than did more experienced teachers. For example, 67 percent of teachers with 3 or fewer years of experience compared with 60 percent of teachers with 20 or more years of experience strongly agreed that other teachers shared ideas that were helpful to their teaching; 26 percent of the least experienced teachers compared with 33 percent of the most experienced teachers strongly agreed that parents supported them in their efforts to educate their children (figure 19 and table B-15). Teachers in 1993-94 also varied by years of teaching experience in their views of support from the school administration. For example, 48 percent of the least experienced teachers compared with 38 percent of the most experienced teachers strongly agreed that the school administration's behavior toward the staff was supportive and encouraging (figure 20 and table C-12).

Figure 18.—Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by school instructional level: 1993-94



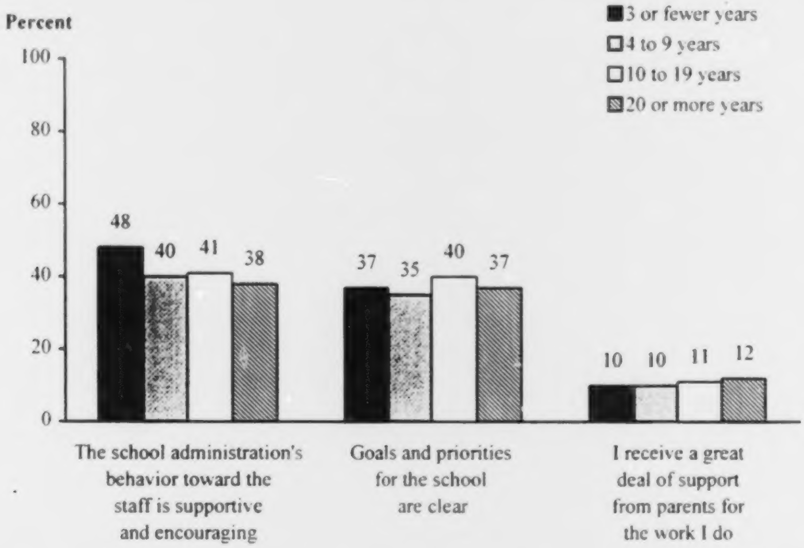
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Figure 19.—Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by teaching experience: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Figure 20.—Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by teaching experience: 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Perceived support from parents was also related to the concentration of poverty in the school (as defined by the percentage of students eligible for free or reduced-price lunch) (figure 21 and table B-15). In 1998, 41 percent of the teachers in schools with the lowest concentration of poverty (less than 15 percent eligible for free or reduced-price lunch) strongly agreed that parents support their efforts, compared with 29 percent of teachers in schools with 33 to 59 percent eligible for free or reduced-price lunch, and 23 percent of teachers in schools with 60 percent or more eligible for free or reduced-price lunch (figure 21 and table B-15). The 1993-94 data also showed differences in perceived support from parents by concentration of poverty in the school. As with the 1998 data, the general pattern in 1993-94 was for teachers in schools with the lowest concentration of poverty to perceive somewhat more support from parents than did teachers in schools with the highest concentration of poverty (figure 22 and table C-12).

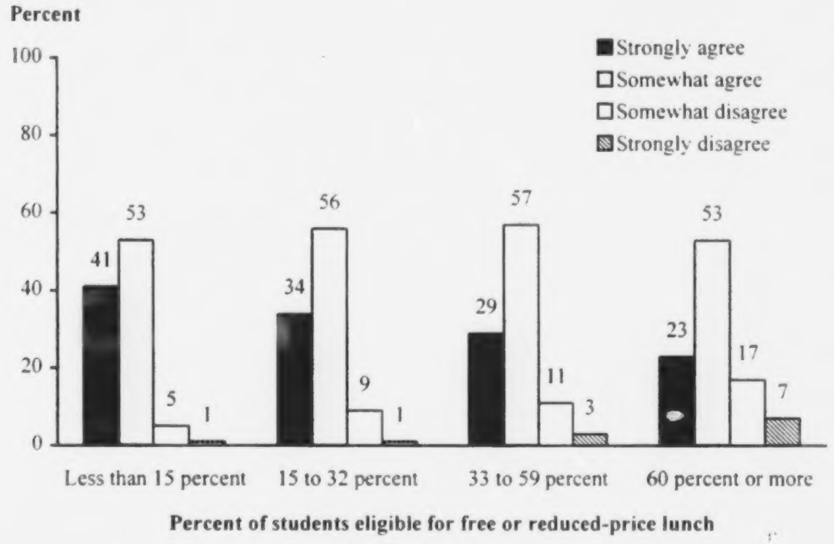
Summary

This chapter began with the premise that in addition to good training and opportunities for continued learning, quality teaching is dependent on the environment in which teachers work. Talented, well-trained teachers are most effective in environments that support their work and professional growth.

Results of the 1998 survey indicate that in many respects, teachers do view their work environments as supportive. Most teachers in 1998 felt supported by the school administration and felt that school goals and priorities were clear. In addition, most teachers believed that other teachers shared ideas with them that were helpful to their teaching. Additionally, average class sizes were lower in 1998 than in 1993-94 for teachers in general elementary classrooms.

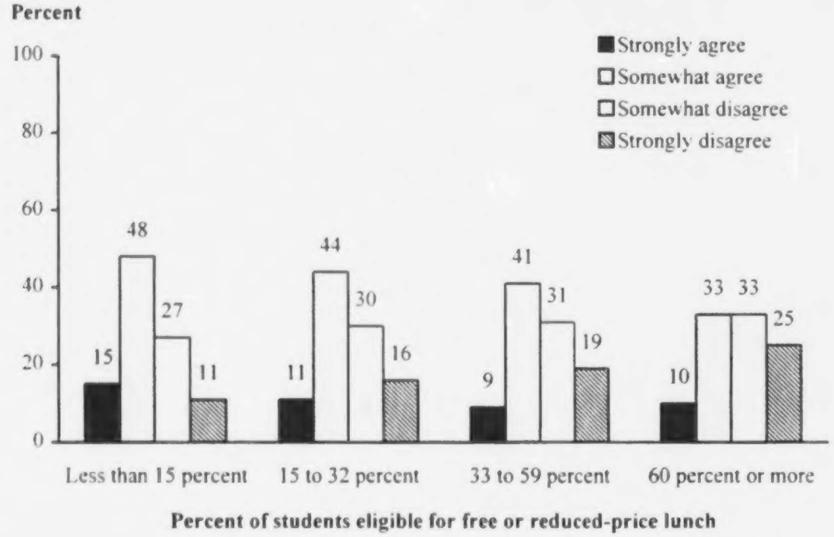
The 1998 survey also indicates aspects of teachers' work environments that could be improved. For example, in 1998, two-thirds of America's full-time public school teachers have not participated in an induction program. However, the 1998 survey indicates that about

Figure 21.—Percent of full-time public school teachers agreeing or disagreeing that parents support them in their efforts to educate their children, by percent of students in school eligible for free or reduced-price school lunch: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Figure 22.—Percent of full-time public school teachers agreeing or disagreeing that they receive a great deal of support from parents for the work they do, by percent of students in school eligible for free or reduced-price school lunch: 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

two-thirds of *new* teachers (those with 3 or fewer years of experience) did participate in such programs. In addition, teachers with 3 or fewer years of experience were more likely to have participated in an induction program in 1998 than in 1993-94 (65 percent compared with 59 percent), suggesting that there may be more emphasis on induction programs in recent years. One-third of teachers in 1998 agreed strongly that parents support their efforts to educate the parents' children, with elementary school teachers perceiving greater support from parents than high school teachers. There was also variation in perceived support by the poverty concentration in the school. The general pattern in both the 1998 and 1993-94 studies was for teachers in schools with the lowest concentration of poverty to perceive somewhat more support from parents than did teachers in schools with the highest concentration of poverty.

5. TEACHERS' FEELINGS OF PREPAREDNESS

The final aspect of the teacher quality model used in this study is teachers' feelings of preparedness. In previous chapters, this FRSS report provided information on a number of measures of teacher preparation and qualifications, including preservice and continued learning and work environments. However, teachers now are challenged by reform initiatives to meet new requirements that have not been part of the conventional repertoire of expectations for effective classroom teaching and for which many teachers have not been adequately prepared during their professional training. As a result, information about teacher qualifications and preparation does not completely address whether preservice and continued learning and work environments *adequately* prepare teachers to meet the often complex and changing demands they face in their classrooms. Teachers' feelings of preparedness may indicate the extent to which their training prepares them to meet these challenges.

Teachers' Preparedness for Classroom Requirements

To fully answer the question of whether educators are adequately prepared to teach our children requires extensive, in-depth studies of teachers (including their practices) and student outcomes—both of which are beyond the scope of this report. However, one approach to addressing these concerns is to examine the extent to which teachers themselves feel prepared to meet these demands. The 1998 survey asked teachers to indicate how well prepared they felt for some of the most compelling classroom demands; these requirements were discussed earlier as content areas in which teachers had professional development (see chapter 3). The requirements were:

- Maintain order and discipline in the classroom;
- Implement new methods of teaching (e.g., cooperative learning);
- Implement state or district curriculum and performance standards;
- Use student performance assessment techniques;
- Address the needs of students with disabilities;
- Integrate educational technology into the grade or subject taught; and
- Address the needs of students with limited English proficiency or from diverse cultural backgrounds.

The data indicate that teachers generally felt either "moderately" or "somewhat" well prepared for most classroom activities (tables 21 and B-19). One exception was teacher preparedness to maintain classroom order and discipline; a majority (71 percent) of teachers felt "very well prepared" for this classroom demand. In contrast, few teachers (9 percent or less) felt they were not at all prepared for various activities. The one exception was that 17 percent of teachers felt not at all prepared to address the needs of students who lack proficiency in English or come from diverse cultural backgrounds.

Since feeling "very well prepared" is one possible indicator of a high-quality teacher, it is useful to compare teachers' self-assessments across classroom activities to identify the requirements for which teachers felt most prepared. Teachers were most likely to report being very well prepared for maintaining order and discipline in the classroom (71 percent; tables 21 and B-19). Classroom management has been identified as a major influence on teacher performance, a key source of teachers' job-related stress, and, in general, an essential prerequisite for student learning (Jones, 1996). Having an overwhelming

Table 21.—Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom: 1998

Activity	How well prepared teachers feel			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
Maintain order and discipline in the classroom	71	24	4	1
Implement new methods of teaching (e.g., cooperative learning)	41	41	16	2
Implement state or district curriculum and performance standards	36	41	20	3
Use student performance assessment techniques	28	41	26	4
Address the needs of students with disabilities*	21	41	30	7
Integrate educational technology in the grade or subject you teach	20	37	34	9
Address the needs of students with limited English proficiency or from diverse cultural backgrounds*	20	33	30	17

*Percents are based on teachers who teach students with these characteristics.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

majority of teachers who felt very well prepared to meet this core classroom requirement is an important indicator. Fewer teachers felt very well prepared to meet other typical classroom requirements for which teachers receive both initial and on-the-job training (tables 21 and B-19). For instance, fewer teachers believed they were very well prepared to implement new teaching methods (41 percent), implement state or district curriculum and performance standards (36 percent), and use student performance assessment techniques (28 percent).

Teachers were least likely to report being very well prepared for activities that have more recently become an essential part of expectations for classroom teaching: integrating educational technology into the grade or subject taught, addressing the needs of limited English proficient or culturally diverse students, and addressing the needs of students with disabilities (tables 21 and B-19). While many educators and policy analysts consider educational technology a vehicle for transforming education, relatively few teachers felt very well equipped to integrate technology into classroom instruction (20 percent).

Increased classroom diversity has brought equity issues to the forefront of the education reform agenda, but past studies have shown that many teachers were not trained to meet the demands of diverse student populations.[20] The 1998 survey found that 54 percent of the teachers taught limited English proficient or culturally diverse students, while 71 percent taught students with disabilities (not shown in tables). However, at a time when classrooms are becoming increasingly diverse, relatively few teachers reported being very well prepared to address the needs of limited English proficient or culturally diverse students (20 percent) or students with disabilities (21 percent, tables 21 and B-19).

The likelihood of being very or moderately well prepared to address the needs of limited English proficient or culturally diverse students varied with the percent minority enrollment in the school (figure 23 and table B-19). Thus, among teachers who taught limited English proficient or culturally diverse students, 27 percent of teachers from schools with more than 50 percent minority enrollment believed they were very well prepared to meet the needs of these students, compared with 10 percent feeling very well prepared at schools with minority enrollments of 5 percent or less.

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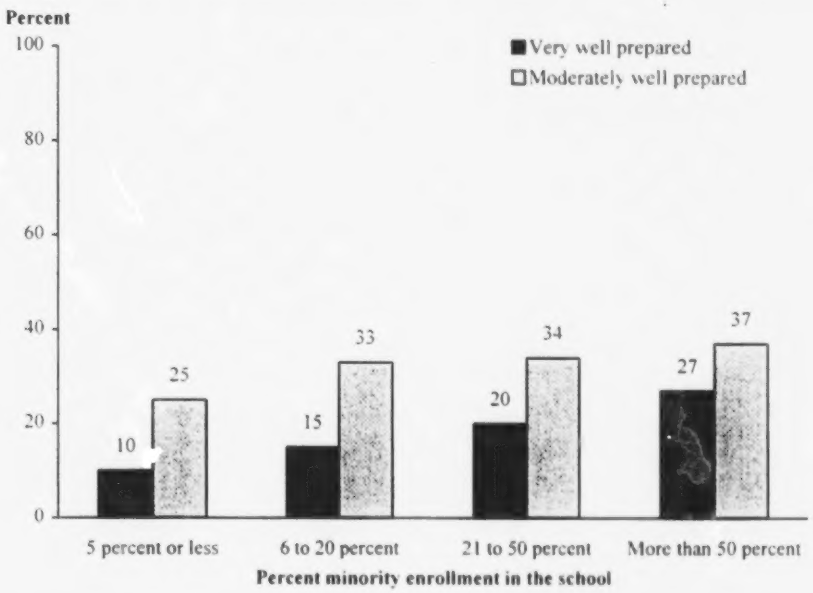
[20] For instance, an earlier report on the 1993-94 SASS data showed that while 39 percent of all teachers taught students with limited English proficiency, just over one-quarter of teachers with these students had any training to meet this student need (U.S. Department of Education, 1997).

Figure 23.—Percent of full-time public school teachers indicating they feel very well or moderately well prepared to address the needs of students with limited English proficiency or from diverse cultural backgrounds, by percent minority enrollment in the school: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Teacher Preparedness and Teaching Experience

Beginning teachers are rarely totally prepared to meet core classroom requirements, including classroom management. Yet, in the context of education reform, experience may not necessarily translate into better teacher preparedness for certain classroom activities, unless experienced teachers have had continued training to upgrade their skills and knowledge in those areas. Integrating technology into classroom instruction and employing new teaching strategies are two such areas. It is therefore useful to examine whether teaching experience makes a difference in the extent to which teachers felt prepared for various classroom requirements.

Teachers' self-perceived preparedness for various classroom activities did not always vary by teaching experience (tables 22 and B-19). For instance, teachers' perceptions of being very well prepared to implement new methods of teaching did not vary significantly by teaching experience. Similarly, newer teachers did not differ from more experienced teachers in feeling very well prepared to address the needs of students with limited English proficiency or from diverse cultural backgrounds.

Teaching experience might be expected to make a difference in being prepared to manage classrooms because this area of expertise may be particularly problematic for beginning teachers (Jones 1996). The 1998 data supported this expectation (tables 22 and B-19). Teachers with 3 or fewer years of teaching experience were less likely than more experienced teachers to report being very well prepared to maintain order and discipline in the classroom. The extent to which teachers felt prepared to implement state or district curriculum also varied by teaching experience, with newer teachers less likely than more experienced teachers to report being very well prepared for this classroom requirement (tables 22 and B-19).

Table 22.—Percent of full-time public school teachers indicating they feel very well prepared to do various activities in the classroom, by teaching experience: 1998

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
Maintain order and discipline in the classroom	54	70	72	76
Implement new methods of teaching (e.g., cooperative learning)	37	44	41	40
Implement state or district curriculum and performance standards	28	36	37	39
Use student performance assessment techniques	23	27	29	30
Address the needs of students with disabilities*	15	21	25	21
Integrate educational technology in the grade or subject you teach	24	23	19	19
Address the needs of students with limited English proficiency or from diverse cultural backgrounds*	18	21	22	18

*Percents are based on teachers who teach students with these characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Teacher Preparedness and Participation in Professional Development

As a subjective measure of teacher quality, teacher preparedness incorporates what the teacher brings to the classroom from preservice learning and on-the-job learning. To the extent that professional development is geared to provide on-the-job-learning in key areas of classroom teaching, recent participation in professional development programs should contribute to teachers being better prepared for the requirements of classroom teaching. It is therefore important to examine the degree of correspondence between the level of teacher participation in professional development in various content areas in the past 12 months and the extent to which teachers felt prepared for classroom responsibilities in these areas.

High levels of recent teacher participation in professional development in various content areas generally did not match overall levels of self-perceived teacher preparedness for a classroom activity (table 23). In every classroom activity except one, the proportion of teachers who had recently participated in professional development on a relevant topic was considerably higher than the proportion of teachers who felt very well prepared for that classroom requirement. The one exception to this pattern was classroom management. While about half of the teachers had recent professional development in this content area, a much higher proportion of teachers felt very well prepared for the classroom requirement (71 percent).

Differences between the proportion of teachers who had recent professional development versus the proportion of teachers who felt very well prepared for classroom demands provide a rough assessment of the degree of correspondence between opportunities for on-the-job learning and overall needs for ongoing teacher preparation. These differences point to disparities between recent teacher participation in professional development and self-perceived teacher preparedness for classroom demands, but they do not directly address the impact of recent professional development on teacher preparedness. It is not easy, however, to assess this impact, since recent exposure to professional development is only one of several influences on teacher preparedness for core classroom requirements.[21]

In every content area except classroom management, less than half of the teachers who had recent professional development felt very well prepared to meet classroom requirements in these areas (table 23). For example, of the teachers who recently participated in professional

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[21] Other influences include initial teacher preparation, teaching experience, and other opportunities for teacher learning.

Table 23.—Comparison of recent teacher participation in professional development in various content areas and perceived teacher preparedness for classroom requirements in those content areas: 1998

Activity	Percent of teachers indicating they participated in professional development activities	Percent of all teachers indicating they felt very well prepared for the classroom activity	Of the teachers who participated in professional development, percent indicating they felt very well prepared for the classroom activity
Maintain order and discipline in the classroom	49	71	68
Implement new teaching methods	77	41	43
Implement state or district curriculum and performance standards	81	36	38
Use student performance assessment techniques	67	28	33
Address the needs of students with disabilities	48	21	25
Integrate educational technology into the grade or subject taught	78	20	23
Address the needs of students with limited English proficiency or from diverse cultural backgrounds	31	20	28

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

development in implementing new teaching methods, 43 percent felt very well prepared for this classroom activity. Similarly, 38 percent of teachers who had professional development in implementing state or district curriculum and performance standards felt very well prepared for the classroom activity.

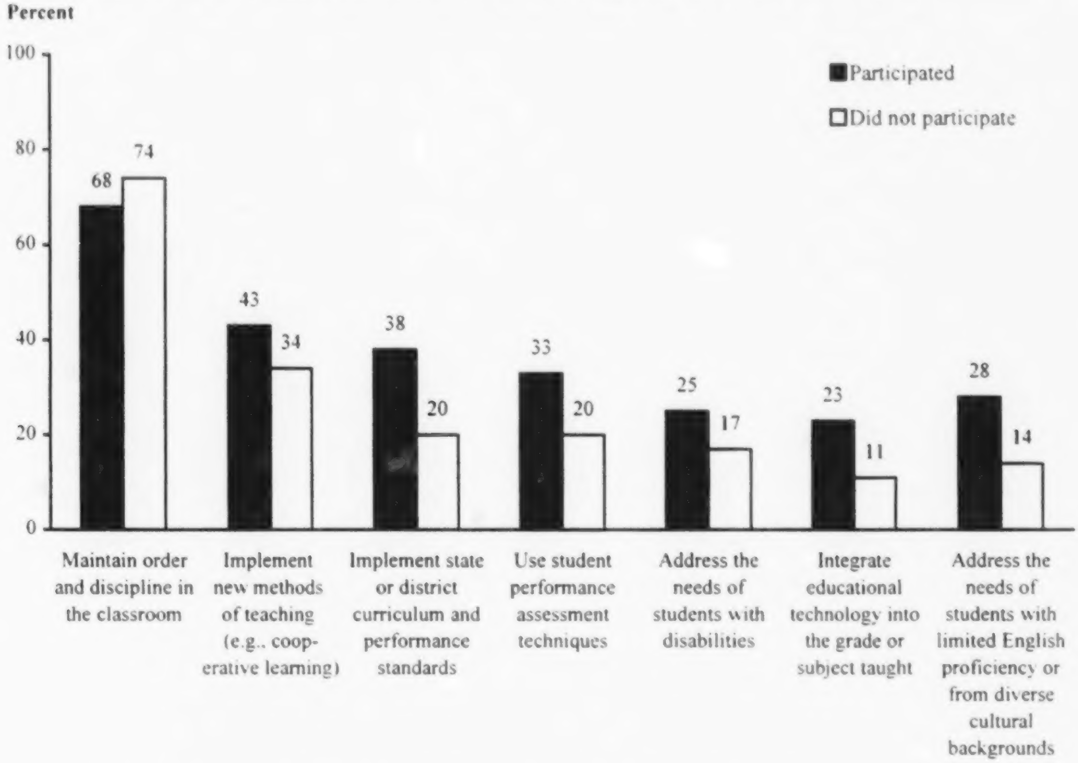
Another way to assess the impact of professional development is to examine differences in preparedness between the proportion of teachers who had recently participated in professional development in each content area versus those who did not participate (figure 24). In general, teachers who had participated in professional development in a content area were more likely than their peers to indicate that they felt very well prepared in that area. For example, those who had professional development in implementing new teaching methods were more likely than those who did not participate to believe they were very well prepared to implement new teaching methods in the classroom (43 versus 34 percent).

Maintaining classroom order and discipline was the only activity in which teacher preparedness did not vary according to the general pattern, but this finding may be clouded by the association between teaching experience and participation in professional development in classroom management. Newer teachers were more likely to have had recent professional development in this content area, but they also felt least prepared to maintain order and discipline in the classroom. These data might suggest that attending workshops and seminars may not be the most effective way of developing this important classroom expertise, since managing students may be more easily learned in the classroom environment and with teaching experience.

Teacher Preparedness and Intensity of Professional Development

Professional development is more likely to bring about long-term change in teacher performance if it is intense. One measure of intensity is the time spent in the programs. The frequency of participation in various professional development programs was examined against the extent to which teachers felt prepared to do various activities in the classroom (tables 24 and B-20). The extent to which teachers felt very well prepared to engage in most activities increased with the time spent in recent professional development in that activity. For example,

Figure 24.—Percent of full-time public school teachers indicating they feel very well prepared to do various classroom activities, by whether they participated in professional development activities in the last 12 months that focused on these content areas: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

teachers who spent over 8 hours in programs in the last 12 months that focused on the integration of technology in classrooms were more likely than those who spent 1 to 8 hours or those who did not participate at all to indicate that they felt very well prepared to meet this classroom requirement.

The data suggest that for professional development to achieve its goal of improving teacher preparedness for classroom requirements, teachers need to spend more than a day of training in a relevant content area. The extent to which teachers felt very well prepared for classroom requirements did not always vary by whether teachers spent 1 to 8 hours or did not participate at all in relevant professional development during the past 12 months (tables 24 and B-20). For instance, teachers who spent 1 to 8 hours in professional development programs that focused on implementing state or district curriculum and performance standards, did not differ from those who had no relevant professional development to report they felt very well prepared to meet this classroom requirement (33 versus 30 percent).

Teacher Preparedness and Collaborative Activities

Teacher collaboration was identified as a second major mechanism of on-the-job learning. To the extent that collaborative activities provide teachers with opportunities for on-going development, participation in these activities should better prepare teachers for classroom demands. The 1998 survey data partially supported this expectation (table 25).

Table 24.—Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by the number of hours spent in professional development in the content area of the activity in the last 12 months: 1998

Content area	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
State or district curriculum and performance standards				
0 hours	30	41	22	6
1 to 8 hours	33	43	20	3
More than 8 hours	44	37	17	1
Integration of educational technology into the grade or subject taught				
0 hours	11	25	40	23
1 to 8 hours	17	39	37	6
More than 8 hours	33	42	23	2
New methods of teaching (e.g., cooperative learning)				
0 hours	34	41	20	5
1 to 8 hours	38	43	17	1
More than 8 hours	51	38	11	*
Student performance assessment				
0 hours	20	39	32	9
1 to 8 hours	27	44	27	2
More than 8 hours	45	40	14	2
Classroom management, including student discipline				
0 hours	74	21	4	1
1 to 8 hours	68	27	4	1
More than 8 hours	68	27	5	*
Addressing the needs of students with disabilities[1]				
0 hours	17	37	35	11
1 to 8 hours	20	46	29	5
More than 8 hours	41	38	18	2
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds[1]				
0 hours	14	26	34	26
1 to 8 hours	21	41	30	8
More than 8 hours	41	43	15	1

*Less than 0.5 percent.

[1] Percents are based on teachers who teach students with these characteristics.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Common planning periods for team teaching and regularly scheduled collaboration with other teachers explicitly emphasize teacher exchange of pedagogical and subject matter knowledge. Teacher preparedness varied by recent participation in both of these collaborative activities (table 25). Teachers who engaged in common planning periods for team teaching were more likely than those who did not participate in the activity to report that they felt very well prepared to implement new teaching methods, implement state and district curriculum and performance standards, use student performance assessment techniques, maintain order and discipline, and address the needs of students with disabilities. Similarly, teachers who participated in regularly scheduled collaboration with other teachers felt better prepared than their peers to implement new teaching methods, implement state or district curriculum and performance standards, use student performance techniques, and address the needs of students with disabilities.

Networking with teachers outside the school was related to teacher preparedness for most

Table 25.—Percent of full-time public school teachers indicating they feel very well prepared to do various classroom activities, by whether they participated in various teaching-related activities in the last 12 months: 1998

Whether teacher participated in the activity	Feel very well prepared to:						
	Maintain order and discipline in the classroom	Implement new methods of teaching	Implement state or district curriculum and performance standards	Use student performance assessment techniques	Address the needs of students with disabilities[1]	Integrate educational technology into the grade or subject taught	Address the needs of students with limited English proficiency or from diverse cultural backgrounds[1]
Common planning period for team teachers							
Yes	73	45	38	31	23	20	20
No	68	34	33	24	19	21	20
Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes							
Yes	71	43	37	30	22	21	20
No	68	33	33	33	17	18	19
Being mentored by another teacher in a formal relationship							
Yes	61	41	39	33	19	23	23
No	73	41	36	27	22	20	19
Mentoring another teacher in a formal relationship							
Yes	80	50	45	37	27	24	23
No	68	38	33	25	19	19	19
Networking with teachers outside your school							
Yes	72	45	39	31	22	23	20
No	68	34	32	24	19	16	20
Individual or collaborative research on a topic of interest to you professionally							
Yes	73	47	40	34	23	24	22
No	68	33	32	22	19	17	17

[1] Percents are based on teachers who teach students with these characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

classroom requirements, with those who recently participated in collaborative activities more likely to report feeling very well prepared for the classroom demand (table 25). For example, teachers who recently engaged in networking with teachers outside the school were more likely than those who did not participate to report that they felt very well prepared to implement new teaching methods (45 versus 34 percent) and integrate educational technology into the grade or subject taught (23 versus 16 percent). Similarly, teachers who engaged in individual and collaborative research felt better prepared than their peers to meet most of the classroom requirements considered in the survey.

Mentoring relationships may yield benefits for both mentor teachers and those who are mentored. The survey found mixed patterns on the relation between being mentored and teacher preparedness for various classroom demands (table 25). Teacher preparedness for a few classroom requirements differed by whether teachers were mentored. Teachers who were mentored felt better prepared than their peers to use student performance techniques (33 versus 27 percent) and address the needs of limited English proficient or culturally diverse students (23 versus 19 percent) but *less* likely to report feeling very well prepared to maintain order and discipline in the classroom (61 versus 73 percent). Moreover, being mentored was not related to teacher preparedness for the other four classroom requirements examined in the survey. One possible interpretation of these findings is being mentored may not necessarily contribute to teachers feeling better prepared for classroom demands. However, the findings may also be clouded by the influence of teaching experience on whether or not teachers were mentored. As discussed earlier, for example, newer teachers were far more likely than more experienced teachers to be mentored, but they also felt less prepared for classroom management.

In contrast to teachers who were mentored, those who served as mentors were more likely than their peers to report that they felt very well prepared for six of seven classroom requirements examined in the survey (table 25). Again, these patterns may be clouded by the influence of teaching experience, since experienced teachers were more likely than newer teachers to serve as mentors.

Summary

Teachers' feelings of preparedness are one important indicator of the extent to which they are prepared to meet the challenges that characterize their profession. Results presented in this report indicate that a majority of teachers felt either "moderately" or "somewhat" well prepared for most classroom requirements; relatively few teachers felt "very well prepared" for many of the activities. Although a majority of the teachers felt very well prepared to manage classrooms and 41 percent felt very well prepared to implement new teaching methods, less than a third felt very well prepared to integrate educational technology or to address the needs of students with limited English proficiency or from culturally diverse backgrounds, or with disabilities.

Teachers' feelings of preparedness may also provide insight into the extent to which opportunities for continued learning prepare them to teach. For example, do teachers who recently participated in formal professional development activities or in collaborative activities actually feel more prepared for various classroom requirements than their peers? Results presented in this section suggest that participation in the activities yielded some positive outcomes for teacher preparedness.

In general, teachers who recently participated in formal professional development felt better prepared than their peers for most classroom demands. Moreover, teachers' feeling of preparedness increased significantly with the number of hours spent in professional development activities. However, preparedness for classroom demands did not always vary by whether teachers spent less than 8 hours or did not participate at all in formal professional development, suggesting that the duration of exposure to opportunities for learning may be an important consideration.

Teachers who recently engaged in various collaborative activities also felt better prepared than their peers to meet most classroom demands. For example, those who had common planning periods for team teaching felt better equipped than their peers to address many of the classroom demands examined in the survey. In contrast, being mentored did not always yield similar benefits; for example, teachers who were mentored felt less prepared than their peers to maintain order and discipline in the classroom. However, this finding may be clouded by the fact that newer teachers were far more likely to be mentored than more experienced teachers, but they also felt less prepared to manage classrooms.

6. CONCLUSIONS

This report began with the statement that a national profile of teacher quality is a necessary tool for tracking our progress toward the goal of providing every child with a high-quality teacher. As suggested, however, providing a national profile of teacher quality is not an easy task. Teacher quality is a complex phenomenon, defined and measured in a variety of ways. An overview of this complexity was provided in the first chapter of this report.

In this study, teacher quality was defined as teachers' preparation and qualifications, as well as the environments in which they work. Teacher quality was measured using a large-scale survey administered to a nationally representative sample of full-time public school teachers. The framework for organizing this report began with a description of different types of full-time public school teacher learning, continued with a consideration of the support teachers receive in their schools and communities, and ended with a discussion of teachers' feelings of preparedness. This was based on the assumption that the preparation of high-quality teachers begins prior to entering their own classrooms (e.g., their formal postsecondary training) and continues once they are on the job (e.g., their participation in professional development activities). In addition, teacher learning and preparation are enhanced in environments that support their learning and work. Finally, teachers' feelings of preparedness were included because they are one important indicator of the extent to which teachers' training has prepared them to meet the challenges that characterize their profession.

Results of the 1998 survey address some of the major concerns regarding teacher quality. The data on preservice learning indicate that full-time public school teachers possess many of the basic prerequisites for teaching—advanced degrees and the appropriate certification and education. For example, virtually all the teachers had a bachelor's degree and about half had a master's degree. Two-thirds of high school teachers and 44 percent of middle school teachers majored in an academic field. Moreover, most of the teachers were fully certified in the field of their main teaching assignment.

Despite the fact that the measure of out-of-field teaching used in this report is conservative—it only includes teachers' main teaching assignments in core fields—the results indicate that a number of educators were teaching out of field. For example, the percent of teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field was 90 percent for mathematics teachers, 94 percent for science teachers, and 96 percent for teachers in English/language arts, social studies/social science, and foreign language. This means that 10 percent of mathematics teachers, 6 percent of science teachers, and 4 percent of English/language arts, foreign language, and social studies/social science teachers in grades 9 through 12 were teaching out of field. The percent of teachers who reported having an undergraduate or graduate major or minor in their main teaching assignment field was significantly lower for teachers of grades 7 through 12 than for teachers of grades 9 through 12 for mathematics (82 percent), science (88 percent), English/language arts (86 percent), and social studies/social sciences (89 percent), indicating that teachers in grades 7 and 8 are less likely to be teaching in field than are teachers in grades 9 through 12.

The data suggest that most teachers participate in activities that provide opportunities for continued learning: almost all teachers had recently participated in at least one formal professional development activity and one teacher-collaboration activity. Teachers were more likely to have had professional development on topics that emphasize curricula and pedagogical shifts in education, including the implementation of state or district curricula, the integration of technology into classroom instruction, and the implementation of new teaching methods. Typically, participation in professional development activities lasted 1 to 8 hours. Moreover, increased time spent in an activity was consistently associated with the perception of significant improvements in teaching. Similarly, teachers who participated more frequently in collaborative activities were more likely than those who participated less frequently, or did not participate at all, to report that the experience improved their teaching "a lot."

Results of the 1998 survey suggest that in many respects, teachers work in supportive environments. For example, most teachers reported feelings of support from other teachers and the school administration, and most of them felt that school goals and priorities were clear. However, the data also indicate aspects of teachers' work environments that can be improved. On the issue of providing formal support for teachers during their early years of teaching, the survey found that two-thirds of America's teachers had not participated in an induction program, although participation was higher for new teachers than for more experienced teachers. Moreover, teachers perceived less parental than collegial and school support. For example, one-third of teachers agreed strongly that parents support their work, although higher levels of parental support were perceived by elementary school teachers than high school teachers, and by teachers in schools with the lowest concentration of poverty compared to those with the highest concentration of poverty.

Finally, results presented in this report indicate that although a majority of teachers felt "very well prepared" to manage classrooms, and 41 percent felt very well prepared to implement new teaching methods, relatively few teachers felt very well prepared for other core classroom requirements. In particular, about 20 percent of the teachers felt very well prepared for classroom requirements that have most recently become part of the repertoire of expectations for effective teaching: integrating educational technology, or addressing the needs of students with limited English proficiency or from culturally diverse backgrounds, or those with disabilities.

This national profile of teacher quality provides important information regarding the preparation and qualifications of American teachers—their preservice learning, teaching assignment, opportunities for continued learning, work environment, and feelings of preparedness. However, this study does not address concerns raised by individuals such as Mandel (1996, p. 3-31); that is, that the indicators presented in this report "provide only the most modest threshold of confidence regarding the quality of practice in the nation's schools." In conjunction with the Education Statistics Services Institute (ESSI) and a team of nationally regarded experts, the National Center for Education Statistics is currently involved in developing measures of teaching practices. Future plans may include combining efforts to provide a profile of teacher quality that includes both teacher preparation and qualifications and teaching practices.

References

Achilles, C.M. (1996). Students achieve more in smaller classes. *Educational Leadership*, 53(3), 76-77.

Address Before the Congress on the State of the Union. (1997, February 4). White House Electronic Publications. [online]. http//:www.pub.whitehouse.gov/uri-es/I2R?urn:pdi://oma.eop.gov.us/1997/2/5/6.text1.

Annual Back to School Address to the National Press Club. (1998, September). Remarks as prepared for delivery by the U.S. Secretary of Education Richard W. Riley. [online]. http://www.ed.gov/Speeches/980915.html.

Asian-Pacific Economic Cooperation. (1997). *Overview of teacher induction policy and practice: Results of the exploratory survey*. (Issue brief No. 97-HR-01.1). Washington, DC: Asian-Pacific Economic Cooperation.

Ball, D.L. (1990). Reflections and deflections of policy: The case of Carol Turner. *Educational Evaluation and Policy Analysis*, 12(3), 263-275.

Ball, D.L. (1996). Teacher learning and the mathematics reforms: What we think we know and what we need to learn. *Phi Delta Kappan*, (March), 500-508.

Ball, D.L., and Wilson, S.M. (1996). Integrity in teaching: Recognizing the fusion of the moral and intellectual. *American Educational Research Journal*, 33(1), 155-192.

Ballou, D., and Podgursky, M. (1997). Reforming teacher training and recruitment. *Government Union Review*, 17(4), 1-47.

Ballou, D., and Podgursky, M. (1998). The case against teacher certification. *Public Interest*, 132, 17-29.

Carnegie Forum on Education and the Economy. (1986). *Task Force on Teaching as a profession. A nation prepared: Teachers for the 21st century*. New York: Carnegie Corporation.

Cohen, D.K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis*, 12(3), 327-345.

Council of Chief State School Officers. (1998). *Key state education policies on K-12 education*. Washington, DC: CCSSO.

Darling-Hammond, L. (1998). Teachers and teaching: Testing policy hypotheses from a national commission report. *Educational Researcher*, 27(1), 5-15.

Darling-Hammond, L., and McLaughlin, M.V. (1996). *Policies that support professional development in an era of reform*. In *Teacher learning: New policies and practices*, edited by M.V. McLaughlin and I. Oberman. New York: Teachers College Press.

Directive on Info Sharing: Promoting Excellence and Accountability in Teaching. (1996, September 12). White House Electronic Publications. [online]. http://www.pub.whitehouse.gov/uri-res/I2R?urn:pdi://oma.eop.gov.us/1996/9/12/1.text.1.

Education and Training Priorities for the Fall. (1998, August 31). [online]. http://www.ed.gov/PressReleases/08-1998.wh-0831.html.

Ferguson, R.F. (1990). *Racial patterns in how school and teacher quality affect achievement and earnings*. Dallas: Meadows Foundation.

Finn, J., and Achilles, C.M. (1990). Answers and questions about class size: a statewide experiment. *American Educational Research Journal*, 27(2), 557-577.

Fullan, M., with Stiegelbauer, S. (1991). *The new meaning of educational change*. New York: Teacher's College Press.

Galvez-Hjornevik, C. (1986). Mentoring among teachers: A review of literature. (Report No. SP026700). Austin, TX: *Journal of Teacher Education*. (ERIC No. ED 262 032).

Gold, Y. (1996). Beginning teacher support: Attrition, mentoring, and induction. In *Handbook of research on teacher education*, edited by J.P Sikula, T.J. Buttery, and E. Guyton. New York: Simon & Schuster Macmillan.

Holmes Group. (1986). *Tomorrow's teachers*. East Lansing, MI: The Holmes Group, Inc.

Ingersoll, R. (June 1998). *The problem of out-of-field teaching*. [online]. http://www.pdkintl.org/kappan/king9806.htm.

Interstate New Teacher Assessment and Support Consortium (1995). INTASC Core Standards. [online]. http://develop.ccsso.cybercentral.com/intascst.htm.

Jones, V. (1996). Classroom management. In *Handbook of research on teacher education*, edited by J.P Sikula, T.J. Buttery, and E. Guyton. New York: Simon & Schuster Macmillan.

King, S.H., and Bey, T.M. The need for urban teacher mentors. *Education and Urban Society*, 28, (1), 3-10.

Kruse, S.M., Lewis, K., and Bryk, A. (1994). *Building professional community in schools*. (Issue report No. 6). Madison, WI: University of Wisconsin-Madison, Center on Organization and Restructuring of Schools.

Leinhardt, G. (1989). Math lessons: A contrast of novice and expert competence. *Journal for Research in Mathematics Education*, 20(1), 52-75.

Mandel, D.R. (1996). Teacher education, training, and staff development: Implications for national surveys. In *Conference proceedings. From data to information: New directions for the National Center for Education Statistics*, edited by G. Hoachlander, J.E. Griffith, and J.H. Ralph. NCES 96-901. Washington, DC: U.S. Department of Education.

McLaughlin, M.W., and Oberman, I. (1996). (Eds). Teacher learning: New policies and practices. New York: Teachers College Press.

National Association of Secondary School Principals. (1996). *Breaking ranks: Changing an American institution*. Reston, VA: NASSP.

National Board for Professional Teaching Standards. (1998). What teachers should know and be able to do. [online]. http://www.nbpts.org/nbpts/standards/intro.html.

National Commission on Teaching and America's Future. (1996). *What matters most: Teaching for America's future.* New York: NCTAF.

National Commission on Teaching and America's Future. (1997). *Doing what matters most: Investing in quality teaching.* New York: NCTAF.

Newmann. F.M. (1994). *School-wide professional community.* (Issue Report No. 6). Madison, WI: University of Wisconsin-Madison, Center on Organization and Restructuring of Schools.

Odden, A. (1990). Class size and student achievement: Research-based policy alternatives. *Educational Evaluation and Policy Analysis*, 12(2), 213-227.

Peterson, P.L. (1990). Doing more in the same amount of time: Cathy Swift. *Educational Evaluation and Policy Analysis,* 12(3), 277-296.

Ravitch, D. Lesson plan for teachers. *The Washington Post*, 10 August 1998, p. A17.

Sizer, T.R. (1992). *Horace's compromise: The dilemma of the American high school.* Boston, MA: Houghton Mifflin Co.

Sprinthall, N.A., Reiman, A.J., and Theis-Sprinthall, L. (1996). Teacher professional development. In *Handbook of research on teacher education*, edited by J.P Sikula, T.J. Buttery, and E. Guyton. New York: Simon & Schuster Macmillan.

Stodolsky, S.S. (1984). Teacher evaluation: The limits of looking. *Educational Researcher*, 13(9), 11-18.

Stodolsky, S.S. (1996). Should SASS measure instructional processes and teacher effectiveness? In *The Schools and Staffing Survey: Recommendations for the future*, edited by J. Mullins and D. Kasprzyk. NCES 97-597. Washington, DC: U.S. Department of Education.

Stodolsky, S.S., and Grossman, P.L. (1995). The impact of subject matter on curricular activity: An analysis of five academic subjects. *American Educational Research Journal*, 32(2), 227-249.

Sykes, G. (1990). Organizing policy into practice: Reactions to the cases. *Educational Evaluation and Policy Analysis,* 12(3), 243-247.

Talbert, J.E., and McLaughlin, M.W. (1993). Understanding teaching in context. In *Teaching for understanding: Challenges for policy and practice*, edited by D.K. Cohen, M.W. McLaughlin, and J.E. Talbert, pp. 1-10. San Francisco: Jossey-Bass Publishers.

U.S. Department of Education. (1988). *Class size and public policy: Politics and panaceas*, by T. Tomlinson. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. (1994a). *Strong families, strong schools.* Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (1994b). *Qualifications of the public school teacher workforce: 1988 and 1991.* Statistical Analysis Report No. 95-665, by S.A. Bobbitt and M.M. McMillen. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (1996a). *National assessments of teacher quality.* Working Paper No. 96-24, by Richard M. Ingersoll. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (1996b). *Out-of-field teaching and educational equality.* Statistical Analysis Report No. 96-040, by Richard M. Ingersoll. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (1996c). *Are high school teachers teaching core subjects without college majors or minors in those subjects?* Issue Brief IB-1-96, NCES 96-839, by Richard M. Ingersoll. Washington, DC: U.S. Department of Education.

U.S. Department of Education. National Center for Education Statistics. (1997). *America's teachers: Profile of a profession, 1993-94.* NCES 97-460, by R.R. Henke, S.P. Choy, X. Chen, S. Geis, M.N. Alt, and S.P. Brougham. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (1998a). *The TIMSS videotape classroom study: Methods and findings from an exploratory research project on eighth-grade mathematics instruction in Germany, Japan, and the United States.* Research and Development Report No. 98-047, by James W. Stigler, Patrick Gonzales, Takako Kawanaka, Steffen Knoll, and Ana Serrano. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (1998b). *School policies and practices affecting instruction in mathematics.* NCES 98-495, by E.F. Hawkins, F. Stancavage, and J.A. Dossey. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (1998c). *Toward better teaching professional development in 1993-94.* Statistical Analysis Report No. 98-230, by S. Choy, X. Chen, and M. Ross. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. National Center for Education Statistics. (forthcoming). *What happens in classrooms? Elementary and secondary school instruction, 1994-95,* by R.R. Henke, X. Chen, and G. Golman. Washington, DC: U.S. Government Printing Office.

Westerman, D.A. (1991). Expert and novice teacher decision making. *Journal of Teacher Education,* 42(4), 292-305.

Wise, A.E., Darling-Hammond, L., McLaughlin, M.W., and Bernstein, H.T. (1984). Teacher evaluation: A study of effective practices. (Report No. R-3139-NIE). Santa Monica, CA: The Rand Corporation.

Word, E., Achilles, C., Bain, H.P., Folger, J., Johnston, J., and Lintz, M.N. (1990). *The state of Tennessee's student/teacher ratio (STAR) project: Technical report.* Nashville, TN: Tennessee Department of Education.

Suggested Readings

Achilles, C.M. (1996) Students achieve more in smaller classes. *Educational Leadership*, 53(3), 76-77.

This article reviews Tennessee's Student/Teacher Ratio Project research, which found significant educational benefits for children enrolled in smaller classes. The author cites many of the specific benefits of smaller classes, such as increased attention for students, friendlier classes, and fewer discipline problems.

Address Before the Congress on the State of the Union. (1997, February 4). White House Electronic Publications. [online]. http//:www.pub.whitehouse.gov/uri-es/I2R?urn:pdi://oma.eop.gov.us/1997/2/5/6.text.1.

In his 1997 State of the Union Address, President Clinton issued a "Call to Action," stressing new commitment to reshaping and refocusing American schools. The speech reflects the growing concern over the shortage of quality teachers.

Annual Back to School Address to the National Press Club. (1998, September). Remarks as prepared for delivery by the U.S. Secretary of Education Richard W. Riley. [online]. http://www.ed.gov/Speeches/980915.html.

Riley's speech discusses the current problems and future trends that face schools. The most pressing is described as the "baby-boom echo," which has led to record numbers in national enrollment and reinforces the need for more quality teachers.

Asian-Pacific Economic Cooperation. (1997). Overview of teacher induction policy and practice: results of the exploratory survey. (Issue brief No. 97-HR-01.1). Washington, DC: Asian-Pacific Economic Cooperation.

Authors Jay Moskowitz and Maria Stephens report on the state of policy and practice in teacher induction programs among Asian-Pacific Economic Cooperation members.

Ball, D.L. (1990). Reflections and deflections of policy: The case of Carol Turner. *Educational Evaluation and Policy Analysis*, 12(3), 263-275.

The article examines the teaching practices of one educator, showing how her approach both adheres to and circumvents the curriculum framework established by the state.

Ball, D.L. (1996). Teacher learning and the mathematics reforms: What we think we know and what we need to learn. *Phi Delta Kappan*, (March), 500-508.

Using classroom observations, this paper highlights the importance of two important aspects of teaching. The authors argue that effective teaching must address both moral concerns and pedagogical content knowledge.

Ball, D.L., and Wilson, S.M. (1996). Integrity in teaching: Recognizing the fusion of the moral and intellectual. *American Educational Research Journal*, 33(1), 155-192.

The article focuses on teachers' learning process. It argues that school reform will not be fully enacted until reformers have a better understanding of how teachers learn. Only then can new standards and reforms be successfully implemented.

Ballou, D., and Podgursky, M. (1997). Reforming teacher training and recruitment. *Government Union Review*, 17(4), 1-47.

Ballou, D., and Podgursky, M. (1998). The case against teacher certification. *Public Interest*, 132, 17-29.

The authors provide critical look at the recommendations for changes in the teacher training process put forth by the National Commission on Teaching and America's Future (NCTAF) in a 1996 report. The authors argue that more extensive training will not lead to an increase in the quality of teachers.

Carnegie Forum on Education and the Economy. (1986). *Task Force on teaching as a profession. A nation prepared: Teachers for the 21st century*. New York: Carnegie Corporation.

The Carnegie Forum on Education and the Economy calls for sweeping changes in education policy in an effort to redefine the essential standards of American education. Ideas such as restructuring schools, the development of a professional curriculum for teacher preparation programs, and new requirements for the teacher certification are described.

Center for Education Reform. (1998). Fifteen years after A Nation at Risk. [online]. http://edreform.com/pubs/manifest.htm.

This document compares and discusses data gathered on characteristics of the education system and discussed in the 1983 report by the National Commission on Excellence in Education, *A Nation at Risk*, to data collected in the same areas in 1998. The report ends with ten recommended changes in education for the next century.

Cohen, D.K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis*, 12(3), 327-345.

This paper investigates the teaching practices of one elementary school teacher, who claims to have altered her instruction methods in response to a new state policy. The article explores which aspects of the policy the teacher has adopted and which she has rejected.

Council of Chief State School Officers. (1998). *Key state education policies on K-12 education*. Washington, DC: CCSSO.

This report is part of a continuing series by the CCSSO created to inform policymakers and educators on the current status of key policies in education that shape and define education in American public schools.

Darling-Hammond, L. (1998). Teachers and teaching: testing policy hypotheses from a national commission report. *Educational Researcher*, 27(1), 5-15.

Darling-Hammond analyzes the NCTAF's 1996 report on problems present in current teacher training programs.

Darling-Hammond, L., and McLaughlin, M.V. (1996). Policies that support professional development in an era of reform. In *Teacher learning: New policies and practices*, edited by M.V. McLaughlin and I. Oberman. New York: Teachers College Press.

Darling-Hammond and McLaughlin explore the practice and policy of staff development in terms of recent developments in teacher learning.

Directive on Info Sharing: Promoting Excellence and Accountability in Teaching. (1996, September 12). White House Electronic Publications. [online]. http://www.pub.whitehouse.gov/uri-res/I2R?urn:pdi://oma.eop.gov.us/1996/9/12/1.text.1.

In this memorandum to the Secretary of Education, the President focuses on the need for high-quality teachers in national schools. A reward system for good teachers, tougher licensing and certification measures, and removal of incompetent teachers are some of the standards recommended in this effort.

Education and Training Priorities for the Fall. (1998, August 31). [online]. http://www.ed.gov/PressReleases/08-1998/wh-0831.html.

In a press release, the education and training priorities for the year's remaining congressional session are presented and outlined. The President's commitment to reducing class sizes by providing more well-prepared teachers in the early grades is highlighted.

Feiman-Nemser, S. (1996). *Teacher mentoring: A critical review*. Washington, DC: ERIC Digest. (ERIC ED 397060).

This article discusses the growth of mentoring, the obstacles to realizing the potential of mentoring as a method of reform, needed research, and selected issues of policy and practice.

Feistritzer, C.E. (1996). *Profiles of teachers in the U.S.* Washington, DC: National Center for Education Information.

The report presents the findings of an ongoing survey conducted by the National Center for Education Information in an effort to gain better understanding of teachers and the teaching profession.

Ferguson, R.F. (1990). *Racial patterns in how school and teacher quality affect achievement and earnings.* Dallas: Meadows Foundation.

Ferguson examines findings of the Texas examination of administrators and teachers. Ferguson finds that student performance is improved by teachers with strong language skill, classrooms with 18 or fewer students, teachers with more experience, and teachers with master's degrees.

Finn, J., and Achilles, C.M. (1990). Answers and questions about class size: a statewide experiment. *American Educational Research Journal*, 27(3), 557-577.

Finn and Achilles discuss the results of an experiment involving kindergarten students. Students and teachers were randomly assigned to small and large classes within participating schools. Students remained in these classes for 2 years, with testing done at the end of each year in math and reading. Longitudinal analysis of a portion of the sample indicated that students in smaller classes outperformed those in regular size kindergarten classes.

Fox, J. (1995). Teacher incubation time cut back in California. *Education Daily*, 5 October, 1-2.

Fox explains the change in California law in response to the state's teacher shortage that allows colleges to develop 4-year interdisciplinary majors combining liberal arts instruction with education training. Previously, the state prohibited universities from offering extensive teacher preparation, mandating that such training be part of a fifth year of study.

Fullan, M., with Stiegelbauer, S. (1991). *The new meaning of educational change*. New York: Teacher's College Press.

Fullan and Steigelbauer argue that teacher education should be viewed as a career-long proposition in the effort to move toward effective education reform.

Galvez-Hjornevik, C. (1986). Mentoring among teachers:, A review of literature. (Report No. SP026700). Austin, TX: *Journal of Teacher Education*. (ERIC No. ED 262 032).

The author reviews prior studies of mentoring relationships and identifies the characteristics of successful mentor-protégé interaction.

Gold, Y. (1996). Beginning teacher support: Attrition, mentoring, and induction. In *Handbook of research on teacher education*, edited by J.P Sikula, T.J. Buttery, and E. Guyton. New York: Simon & Schuster Macmillan.

Gold discusses the importance of early and continuous support to beginning teachers in preventing attrition and burnout and promoting retention and career satisfaction.

Holmes Group. (1986). *Tomorrow's teachers*. East Lansing, MI: The Holmes Group, Inc.

The Holmes Group report outlines the organization's goals for the reform of teacher education. The group states that their first goal, "to make the education of teachers intellectually more solid," is a critical step in reforming the education system.

Ingersoll, R. (June 1998). *The problem of out-of-field teaching*. [online] http://www.pdkintl.org/kappan/king9806.htm.

Ingersoll presents the consideration of out-of-field teaching as a critical issue in the American education system.

Interstate New Teacher Assessment and Support Consortium (1995). INTASC Core Standards. [online]. http://develop.ccsso.cybercentral.com/intascst.htm.

This document lists the INTASC core standards for granting licenses to new teachers and serves as a framework for the reform of teacher preparation and professional development. These principles represent characteristics that the group feels should be present in all teaching regardless of the subject or grade level taught.

Jones, V. (1996). Classroom management. In *Handbook of research on teacher education*, edited by J.P Sikula, T.J. Buttery, and E. Guyton. New York: Simon & Schuster Macmillan.

Jones examines the role of classroom management in teacher effectiveness. The author calls for studies to explore various approaches in educating teachers in this area.

King, S.H., and Bey, T.M. (1995). The need for urban teacher mentors. *Education and Urban Society*, 28, (1), 3-10.

The authors focus on the potential for urban teachers to improve their teaching through mentoring support.

Kruse, S.M., Lewis, K., and Bryk, A. (1994). *Building professional community in schools*. (Issue report No. 6). Madison, WI: University of Wisconsin-Madison, Center on Organization and Restructuring of Schools.

The authors call for an attention shift in education reform toward the creation of a professional community founded on encouragement and support for teachers.

Leinhardt, G. (1986). The cognitive skill of teaching. *Journal of Educational Psychology*, 78(2), 75-95.

This article characterizes teaching as a complex cognitive skill that can be analyzed in a manner similar to other skills described by cognitive psychology. Elementary mathematics instruction by both expert and novice teachers is examined based on the theory that teaching skill is built on two fundamental knowledge systems: lesson structure and subject matter.

Leinhardt, G. (1989). Math lessons: A contrast of novice and expert competence. *Journal for Research in Mathematics Education*, 20(1), 52-75.

Leinhardt compares the teaching practices exhibited by expert teachers to those of novice teachers. The results of this comparison highlight the nature of the competencies that expert teachers possess and suggest some areas of instruction for future teachers.

Little, J.W. (1993). *Teachers' professional development in a climate of educational reform*. (Report No. SP035393). New York: NCREST. (ERIC No. ED 373 049).

Little argues that professional development focused primarily on expanding an individual's repertoire of classroom skills is not adequate achieve reform in education.

Mandel, D.R. (1996). Teacher education, training, and staff development: Implications for national surveys. In *Conference proceedings. From data to information: New directions for the National Center for Education Statistics*, edited by G. Hoachlander, J.E. Griffith, and J.H. Ralph. NCES 96-901. Washington, DC: U.S. Department of Education.

This document summarizes discussion intended to aid planning for NCES future activities specifically in areas of substance, technology, and methodology of data collection, analysis, and dissemination. Mandel believes that consensus about what teachers should know and be able to do in the classroom is necessary for effective reform.

McLaughlin, M.W., and Oberman, I. (1996). (Eds). *Teacher learning: New policies and practices*. New York: Teachers College Press.

McLaughlin and Oberman focus on the practice and policy of staff development in terms of recent developments in teacher learning.

National Association of Secondary School Principals. (1996). *Breaking ranks: Changing an American institution.* Reston, VA: NASSP.

The report focuses on revitalizing education for all students and points to what is needed for the 21st century high school. Eighty recommendations are presented in the effort to ensure that every student receives a complete, student-centered, and high quality education.

National Board for Professional Teaching Standards. (1998). What teachers should know and be able to do. [online]. http://www.nbpts.org/nbpts/standards/intro.html.

This publication details the National Board's vision of excellence in teaching. High and rigorous standards for what teachers should know and be able to do are incorporated into a voluntary certification system created by the organization.

National Commission on Teaching and America's Future. (1996). *What matters most: Teaching for America's future.* New York: NCTAF.

The NCTAF attempts to provide "a blueprint for recruiting, preparing, and supporting excellent teachers in all of America's schools" in this report.

National Commission on Teaching and America's Future. (1997). *Doing what matters most: Investing in quality teaching.* New York: NCTAF.

A followup to the Commission's *What Matters Most: Teaching for America's Future*, this report revisits previous recommendations, offers new data about how investments in teaching improve student achievement, and gives an overview of the nation's progress toward quality teaching.

National Council for Accreditation of Teacher Education. (1997). Introduction to draft accreditation standards for candidates in elementary teacher programs. [online]. http://www.ncate.org/projects/npt/PSDPstds.html.

This Council draft supports the group's commitment to developing performance-based expectations for teacher preparation aligned with other organizations focusing on reforming teacher quality.

Nelson, B.S., and Hammerman, J.K. (1996). Reconceptualizing teaching: Moving toward the creation of intellectual communities of students, teachers and teacher educators. In *Teacher learning: New policies and practices*, edited by M.W. McLaughlin and I. Oberman. New York: Teachers College Press.

Nelson and Hammerman call for a movement toward conceiving teaching as an intellectual, rather than technical, endeavor. Innovative professional development programs are identified as the catalysts to this movement.

Newmann, F.M. (1992) *Student engagement and achievement in American secondary schools*. New York: Teachers College Press.

Newmann presents findings from research from five projects conducted by the National Center on Effective Secondary Schools.

Newmann, F.M. (1994). *School-wide professional community*. (Issue Report No. 6). Madison, WI: University of Wisconsin-Madison, Center on Organization and Restructuring of Schools.

In this article, the author considers the issue of collaboration among school staff. He summarizes the barriers to collaboration, offers a vision of the effective school community, and provides examples of schools that have restructured to develop their professional communities.

Newmann, F.M., Marks, H.M., and Gamoran, A. (1995). Authentic pedagogy and student performance. Paper presented to the annual meeting of the American Educational Research Association, April, San Francisco, CA.

The authors argue that although important distinctions may be made between progressive, student-centered, and constructivist teaching, they all are grounded in emphasis on active learning.

Newmann, F.M., Secada, W.G., and Wehlage, G.G. (1995). *A guide to authentic instruction and assessment: Vision, standards, and scoring*. Madison, WI: Wisconsin Center for Education Research.

The authors attempt to develop standards for judging the intellectual quality of schoolwork, regardless of the form of teaching and assessment techniques used. Researchers observed over 700 lessons in 24 schools in this effort.

Newmann, F.M., and Wehlage, G.G. (1993). Five standards of authentic instruction. Educational Leadership, 50(7), 8-12.

Newmann and Wehlage argue that innovations alone will not lead to improved achievement. Authentic instruction is divided into five standard categories: higher order thinking, depth of knowledge, connectedness of the work, substantive conversation, and social support for student achievement.

Odden, A. (1990). Class size and student achievement: Research-based policy alternatives. *Educational Evaluation and Policy Analysis*, 12(2), 213-227.

Odden reviews literature on the relation between class size and student achievement and suggests policy alternatives. Class size reduction strategies are proposed for primary and secondary instruction.

Peterson, P.L. (1990). Doing more in the same amount of time: Cathy Swift. *Educational Evaluation and Policy Analysis*, 12(3), 277-296.

Peterson examines the perspectives and practices of an elementary mathematics teacher in relation to the educator's knowledge and beliefs, tangled layers of policy, and multiple uncertainties and conflicts.

Promising Practices: New ways to improve teacher quality. (1998). [online]. http://www.ed.gov/PromPractice.

This publication by the Department of Education considers several ideas for improving the quality teachers in American schools. Recruitment, preparation, new licensing and certification standards, and improved professional development are major areas explored.

Ravitch, D. Lesson plan for teachers. *The Washington Post*, 10 August, 1998, p. A17.

In an editorial, the author suggests that improvements in the education of teachers must be made. Future teachers should have an academic major in the subject that they intend to teach.

Schwartz, J., and Warren, P. (1997). Class size reduction. [online]. http://www.lao.ca.gov/class_size_297.html.

In a report prepared for the California Legislative Analyst's Office, results on findings from a study on the state's class size reduction program are presented.

Sizer, T.R. (1992). *Horace's compromise: The dilemma of the American high school.* Boston, MA: Houghton Mifflin Co.

This book urges renewed public attention to the importance of teaching in high schools and to the complexity and subtlety of being an educator. Sizer supports the belief that the abilities and methods of the teachers in a school are of great importance.

Sprinthall, N.A., Reiman, A.J., and Theis-Sprinthall, L. (1996). Teacher professional development. *In Handbook of research on teacher education*, edited by J.P Sikula, T.J. Buttery, and E. Guyton. New York: Simon & Schuster Macmillan.

Sprinthall, Reiman, and Theis-Sprinthall focus on the emergence of teacher development as a pressing issue in education and review existing research on the subject.

Stodolsky, S.S. (1984). Teacher evaluation: The limits of looking. *Educational Researcher*, 13(9), 11-18.

Stodolsky reviews current practices in teacher evaluation with particular focus on observation. The author maintains that limitations in the use of observation must be acknowledged and addressed in teacher evaluation settings.

Stodolsky, S.S. (1996). Should SASS measure instructional processes and teacher effectiveness? In *The schools and staffing survey: Recommendations for the future*. NCES Report 97-596, by John Mullens and Daniel Kasprzyk. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

The author addresses data collection on instructional practices and teacher effectiveness. Stodolsky also examines how teacher effectiveness is conceptualized.

Stodolsky, S.S., and Grossman, P.L. (1995). The impact of subject matter on curricular activity: An analysis of five academic subjects. *American Educational Research Journal*, 32(2), 227-249.

This article tests the framework connecting subject matter with curricular activities among high school teachers of five academic subjects. The concepts of subject matter and curricular activities of English, social studies, science, math, and foreign language teachers in 16 high schools are compared.

Sweeney, B.W. (1994). A new teacher mentoring knowledge base. [online]. http://www.mentors.net/Library Files/Knowlbase.html.

Sweeney shares his ideas on mentoring as a professional development activity. Roles and tasks of mentors, expectations and matching of mentors and proteges, selection of mentors, and other topics are discussed.

Sykes, G. (1990). Licensure and certification of teachers: An appraisal. In *The new handbook of teacher evaluation assessing elementary and secondary school teachers*, edited by J. Millman and L. Darling-Hammond, pp. 62-75. Newbury Park, CA: Corwin Press.

Sykes considers the controversy surrounding agreement on the minimum qualifications associated with the issuance of teaching credentials.

Talbert, J.E., and McLaughlin, M.W. (1993). Understanding teaching in context. In *Teaching for understanding: Challenges for policy and practice*, edited by D.K. Cohen, M. W. McLaughlin, and J. E. Talbert, pp. 1-10. San Francisco: Jossey-Bass Publishers.

Using the "teaching for understanding concept" as an example, the authors discuss the challenges that reform efforts face inside and outside of schools.

U.S. Department of Education. (1988). *Class size and public policy: Politics and panaceas*, by T. Tomlinson. Washington, DC: U.S. Government Printing Office.

Tomlinson reviews the issue of class size reduction. Data from research on the subject are analyzed in search of a relationship between class size and educational improvement. The author cites findings supporting the view that the costs of class size reduction outweigh the benefits.

U.S. Department of Education. (1994). *Strong families, strong schools.* Washington, DC: U.S. Government Printing Office.

This document examines the role of families play in the education of children. The results of previous research and possible aspects of modern life that prevent and limit family involvement are discussed.

U.S. Department of Education. National Center for Education Statistics. (1994). *Qualifications of the public school teacher workforce: 1988 and 1991.* Statistical Analysis Report No. 95-665, by S.A. Bobbitt and M.M. McMillen. Washington, DC: U.S. Government Printing Office.

This report examines the qualifications of public school teachers based on their field of certification and college major or minor, with particular emphasis on the extent of out-of-field teaching.

U.S. Department of Education. National Center for Education Statistics. (1995). *Teacher supply in the United States: Sources of newly hired teachers in public and private schools, 1988-1991.* Statistical Analysis Report No. 95-348, by M.R. Rollefson and S.P. Broughman. Washington, DC: National Center for Education Statistics.

This report provides analysis of data from the 1991 SASS on newly hired teachers. The changes in rates of entry, qualifications, and characteristics of new entrants are compared with 1988 SASS data.

U.S. Department of Education. National Center for Education Statistics. (1996). *National assessments of teacher quality.* Working Paper No. 96-24, by R.M. Ingersoll. Washington, DC: U.S. Government Printing Office.

This NCES paper addresses the subject of teacher quality. An outline of issues and questions in this area, a review of the predominant approaches to assessing teacher quality, and an alternative to current assessment methods are provided.

U.S. Department of Education. National Center for Education Statistics. (1996). *Out-of-field teaching and educational equality.* Statistical Analysis Report No. 96-040, by Richard M. Ingersoll. Washington, DC: U.S. Government Printing Office.

This report presents national data on the extent to which students in the nation's public secondary schools are taught by teachers without basic qualifications in their assigned teaching fields. It seeks to address the question of whether inequalities exist in the distribution of adequately qualified teachers across and within different schools in the United States.

U.S. Department of Education. National Center for Education Statistics. (1996). *Are high school teachers teaching core subjects without college majors or minors in those subjects?* Issue Brief IB-1-96, NCES 96-839, by Richard M. Ingersoll. Washington, DC: U.S. Department of Education.

In this NCES Issue Brief, Ingersoll reports the percent of public and private high school teachers teaching at least one core curriculum subject without a college major or minor in the subject.

U.S. Department of Education. National Center for Education Statistics. (1997). *America's teachers: Profile of a profession, 1993-94*. NCES 97-460, by R.R. Henke, S.P. Choy, X. Chen, S. Geis, M.N. Alt, and S.P. Brougham. Washington, DC: U.S. Government Printing Office.

This report addresses a wide range of topics related to teachers and teaching in the United States. Topics include teachers' demographic characteristics and various characteristics of their schools and students; teachers' preparation and professional development experiences, their workloads, teaching practices, compensation, satisfaction with and opinions regarding their working conditions, and the supply and demand of teachers.

U.S. Department of Education. National Center for Education Statistics. (1997). *Characteristics of stayers, movers, and leavers: results from the teacher follow-up survey: 1994-95*. Report No. 97-450, by S.D. Whitener, K.J. Gruber, H. Lynch, K. Tingoes, M. Perona, and S. Fondelier. Washington, DC: U.S. Government Printing Office.

This report presents national data on the extent to which students in the nations' public secondary schools are taught by teachers without basic qualifications in their assigned teaching fields. It seeks to address the question of whether inequalities exist in the distribution of adequately qualified teachers across and within different schools in the United States.

U.S. Department of Education. National Center for Education Statistics. (1997). *Projections of education statistics to 2007*. Report No. 97-382, by D.E. Gerald and W.J. Hussar. Washington, DC: NCES.

This report provides projections for key education statistics on enrollment, graduates, classroom teachers, and expenditures in elementary and secondary schools.

U.S. Department of Education. National Center for Education Statistics. (1998). *Parent involvement in children's education: Efforts by public elementary schools*. Statistical Analysis Report No. 98-032, by N. Carey, L. Lewis, and E. Farris. Washington, DC: NCES.

This report presents data from a study designed to provide information on the ways that schools engage parents in their children's education. The ways in which parents respond to available opportunities for involvement is also explored.

U.S. Department of Education. National Center for Education Statistics. (1998). *School policies and practices affecting instruction in mathematics*. NCES 98-495, by E.F. Hawkins, F. Stancavage, and J.A. Dossey. Washington, DC: U.S. Government Printing Office.

This report describes the educational policies and practices affecting instruction in mathematics, with particular attention to the relationship between these policies and practices and student performance on the NAEP mathematics assessment.

U.S. Department of Education. National Center for Education Statistics. (1998). *The TIMSS videotape classroom study: Methods and findings from an exploratory research project on eighth-grade mathematics instruction in Germany, Japan, and the United States.* Research and Development Report No. 98-047, by James W. Stigler, Patrick Gonzales, Takako Kawanaka, Steffen Knoll, and Ana Serrano. Washington, DC: U.S. Government Printing Office.

This report discusses the data from the TIMSS attempt to collect videotaped records of classroom instruction from national representative samples of teachers. The project centers on better understanding of how the processes of classroom instruction in different cultures will contribute to efforts to improve student learning in school.

U.S. Department of Education. National Center for Education Statistics. (1998). *Toward better teaching professional development in 1993-94.* Statistical Analysis Report No. 98-230, by S. Choy, X. Chen, and M. Ross. Washington, DC: U.S. Government Printing Office.

This report examines who determines the content, duration, and format of professional development programs for teachers. Focus is also placed on whether the opportunity for quality assessment of professional development programs are given to teachers.

U.S. Department of Education. National Center for Education Statistics. (forthcoming). *What happens in classrooms? Elementary and secondary school instruction, 1994-95*, by R.R. Henke, X. Chen, and G. Golman. Washington, DC: U.S. Government Printing Office.

This publication reports on the teaching practices of elementary and secondary school teachers. Using data compiled in a national survey of teachers, the report assesses the variation in instruction strategies among teachers. The report also presents data on the roles teachers play, teachers' use of instructional materials, the types of learning tasks employed by teachers, and teachers' assessment of student learning.

Westerman, D.A. (1991). Expert and novice teacher decision making. *Journal of Teacher Education,* 42(4), 292-305.

Westerman provides indepth comparisons of the teaching practices exhibited by novice and expert teachers in lesson planning and presentation.

Wise, A.E., Darling-Hammond, L., McLaughlin, M.W., and Bernstein, H.T. (1984). *Teacher Evaluation: A Study of Effective Practices.* (Report No. R-3139-NIE). Santa Monica, CA: The Rand Corporation.

The authors identify teacher evaluation systems as capable of defining the nature of teaching and education in schools by either reinforcing the teaching as a profession, or further deprofessionalizing the field.

Word, E., Achilles, C., Bain, H.P., Folger, J., Johnston, J., and Lintz, M.N. (1990). *The state of Tennessee's student/teacher ratio (STAR) project: Technical report.* Nashville, TN: Tennessee Department of Education.

This report presents results of Tennessee's 4-year longitudinal class size project, Student Teacher Achievement Ratio (STAR). The study analyzes student achievement and development in three class types: small classes with 13-17 students per teacher, regular classes with 22-25 students per teacher, and regular classes with 22-25 students per teacher assisted by a full-time teacher's aide.

Appendix A

Sample Methodology and Data Reliability

Table of Contents

Page

Sample Selection A-5
Respondent and Response Rates A-6
Sampling and Nonsampling Errors A-6
Variances A-8
Definitions of Analysis Variables A-8
Comparisons to the 1993-94 Schools and Staffing Survey A-10
Calculations of Major Field of Study for a Bachelor's or Graduate Degree A-11
Calculations of In-Field Teaching A-13
Background Information A-14

List of Appendix Tables

Table

A-1 Number and percent of responding full-time public school teachers in the study sample and estimated number and percent of full-time public school teachers the sample represents, by selected school and teacher characteristics: 1998 .... A-7

A-2 Percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1998 .... A-12

A-3 Percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1993-94 .... A-12

List of Appendix Exhibits

Exhibit

A-1 Match of main teaching assignment field with major and minor fields of study: FRSS 1998 .... A-13

A-2 Match of main teaching assignment field with major and minor fields of study: SASS 1993-94 .... A-14

Sample Selection

The sample for the FRSS Teacher Survey on Professional Development and Training consisted of 4,049 full-time teachers in regular public elementary, middle, and high schools in the 50 states and the District of Columbia. To select the sample of teachers, a sample of 1,999 public schools was first selected from the 1994-95 NCES Common Core of Data (CCD) Public School Universe File. The sampling frame constructed from the 1994-95 CCD file contained 79,250 regular public schools. Excluded from the sampling frame were special education, vocational, and alternative/other schools, schools in the territories, overseas Department of Defense schools, and schools with a high grade lower than one or ungraded, or that taught only adult education. The frame contained 49,955 regular elementary schools, 14,510 regular middle schools, and 15,785 regular high/combined schools. A school was defined as an elementary school if the lowest grade was less than or equal to grade 3 and the highest grade was less than or equal to grade 8. A middle school was defined as having a lowest grade greater than or equal to grade 4 and a highest grade less than or equal to grade 9. A school was considered a high school if its lowest grade was greater than or equal to grade 9 and the highest grade was less than or equal to grade 12. Combined schools were defined as having a lowest grade less than or equal to grade 3 and a highest grade greater than or equal to grade 9. High schools and combined schools were combined into one category for sampling.

The public school sampling frame was stratified by instructional level (elementary, middle, and high school/combined), locale (city, urban fringe, town, and rural), and school size (less than 300, 300 to 499, 500 to 999, 1,000 to 1,499, and 1,500 or more). Within the primary strata, schools were also sorted by geographic region and percent minority enrollment in the school to produce additional implicit stratification. A sample of 1,999 schools was then selected from the sorted frame with probabilities proportionate to size, where the measure of size was the estimated number of full-time-equivalent (FTE) teachers in the school. The sample contained 665 elementary schools, 553 middle schools, and 781 high/combined schools.

Each sampled school was asked to send a list of their teachers, from which a teacher sampling frame was prepared. The teacher sampling frame was designed to represent full-time teachers who taught in any of grades 1 through 12, and whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom. To prepare the teacher lists, schools were asked to start with a list of all the teachers in the school, and then to cross off the following types of teachers: part-time, itinerant, and substitute teachers, teachers' aides, unpaid volunteers, principals (even those who teach), kindergarten or preschool teachers, or anyone on the list who was not a classroom teacher (e.g., librarians, secretaries, or custodians). Next, schools were instructed to cross off the list any teachers whose primary teaching assignments were any of the following: art, bilingual education/English as a second language, business, computer science, health, home economics, industrial arts, music, physical education, remedial or resource, special education, or any other teachers who did not primarily teach a core academic subject or a self-contained class. Then, schools were asked to code all teachers remaining on the list to indicate the primary subject taught, using the general categories of (1) math and science teachers, (2) other academic teachers (English/language arts, social studies/social sciences, or foreign language), or (3) self-contained, for teachers who teach all or most academic subjects in a self-contained classroom setting (including most elementary school teachers). Schools were then asked to code the total years of teaching experience for all teachers remaining on the list, using the categories of 3 or fewer years, or 4 or more years teaching experience, counting the current academic year as one full year.

Within selected schools, eligible teachers were stratified by years of teaching experience (3 or fewer, or 4 or more), and primary teaching assignment (mathematics/science or other academic/self-contained for middle and high schools; all elementary school teachers were treated for sampling as self-contained classroom teachers, because too few teachers at this level teach in departmentalized settings). Teacher sampling rates were designed to select at least one but no more than four teachers per school, with an average of about two, and were designed to be self-weighting (equal probability) samples within strata. A total of 4,049 teachers were selected. The sample contained 1,350 elementary school, 1,130 middle school, and 1,569 high school/combined teachers.

Respondent and Response Rates

A letter and instruction sheet for preparing the list of teachers was sent to the principal of each sampled school in September 1997. The letter introduced the study, requested the principal's cooperation to sample teachers, and asked the principal to prepare a list of teachers that included only full-time teachers of self-contained classes or core academic subjects. Telephone followup was conducted from October 1997 through March 1998 with principals who did not respond to the initial request for teacher lists. Of the 1,999 schools in the sample, 14 were found to be out of the scope of the survey (no longer in existence), for a total of 1,985 eligible schools. Teacher lists were provided by 1,818 schools, or 92 percent of the eligible schools. The weighted response rate[1] to the teacher list collection was 93 percent.

Questionnaires were mailed to the teachers in two phases, so that data collection on the teacher questionnaire would not be delayed while the list collection phase was being completed. The first phase of questionnaires was mailed in mid-February 1998, and the second in mid-March 1998. Telephone followup was conducted from March through June 1998 with teachers who did not respond the initial questionnaire mailing. In addition, a postcard prompt was sent to nonresponding teachers in April 1998. Of the 4,049 teachers selected for the sample, 183 were found to be out of the scope of the survey, usually because they were not a regular full-time classroom teacher, or because their main teaching assignment was not in a core academic subject or as a self-contained classroom teacher. This left a total of 3,866 eligible teachers in the sample. Completed questionnaires were received from 3,560 teachers, or 92 percent of the eligible teachers. The weighted teacher response rate was also 92 percent. The unweighted overall response rate was 84 percent (91.6 percent for the list collection multiplied by 92.1 percent for the teacher questionnaire). The weighted overall response rate was 86 percent (93.1 percent for the list collection multiplied by 92.1 percent for the teacher questionnaire). Weighted item nonresponse rates ranged from 0 percent to 1.9 percent. Because the item nonresponse was so low, imputation for item nonresponse was not implemented.

Sampling and Nonsampling Errors

The responses were weighted to produce national estimates (see table A-1). The weights were designed to adjust for the variable probabilities of selection and differential nonresponse. The findings in this report are estimates based on the sample selected and, consequently, are subject to sampling variability.

The survey estimates are also subject to nonsampling errors that can arise because of nonobservation (nonresponse or noncoverage) errors, errors of reporting, and errors made in data collection. These errors can sometimes bias the data. Nonsampling errors may include such problems as misrecording of responses; incorrect editing, coding, and data entry; differences related to the particular time the survey was conducted; or errors in data preparation. While general sampling theory can be used in part to determine how to estimate the sampling variability of a statistic, nonsampling errors are not easy to measure and, for measurement purposes, usually require that an experiment be conducted as part of the data collection procedures or that data external to the study be used.

To minimize the potential for nonsampling errors, the questionnaire was pretested with respondents like those who completed the survey. During the design of the survey and the survey pretest, an effort was made to check for consistency of interpretation of questions and to eliminate ambiguous items. The questionnaire and instructions were extensively reviewed by the National Center for Education Statistics and the Office of the Secretary, U.S. Department of Education. Manual and machine editing of the

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[1] All weighted response rates were calculated using the base weight.

Table A-1.—Number and percent of responding full-time public school teachers in the study sample and estimated number and percent of full-time public school teachers the sample represents, by selected school and teacher characteristics: 1998

School and teacher characteristic	Respondent sample		National estimate	
	Number	Percent	Number	Percent
All targeted public school teachers[1]	3,560	100	1,460,261	100
School instructional level				
Elementary school	1,211	34	766,212	52
Middle school	983	28	284,776	20
High school	1,128	32	338,406	23
Combined	238	7	70,867	5
School enrollment size				
Less than 300	362	10	157,481	11
300 to 499	677	19	329,779	23
500 to 999	1,517	43	652,949	45
1,000 or more	1,004	28	320,053	22
Locale				
Central city	1,048	29	453,094	31
Urban fringe/large town	1,335	38	554,043	38
Rural/small town	1,177	33	453,124	31
Region				
Northeast	636	18	259,653	18
Midwest	877	25	357,746	24
South	1,386	39	563,111	39
West	661	19	279,751	19
Percent minority enrollment in school				
5 percent or less	926	26	376,307	26
6 to 20 percent	888	25	371,809	26
21 to 50 percent	856	24	349,323	24
More than 50 percent	875	25	356,971	25
Percent of public school students in school eligible for free or reduced-price school lunch				
Less than 15 percent	957	27	368,984	25
15 to 32 percent	888	25	348,641	24
33 to 59 percent	872	25	367,132	25
60 percent or more	833	24	372,331	26
Main teaching assignment				
General elementary[2]	1,210	34	733,651	50
Math/science	1,041	29	307,840	21
Other targeted academic subject	1,309	37	418,771	29
Teaching experience				
3 or fewer years	845	24	202,204	14
4 to 9 years	808	23	324,219	22
10 to 19 years	745	21	369,393	25
20 or more years	1,161	33	564,107	39
Teacher race/ethnicity				
White, non-Hispanic	3,069	87	1,259,063	87
Black, non-Hispanic	243	7	103,552	7
Other	227	6	90,082	6
Sex				
Male	1,093	31	367,638	25
Female	2,467	69	1,092,623	75

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Details may not sum to totals because of rounding or missing data. There were very small amounts of missing data for the following variables: percent minority enrollment in school (0.4 percent), percent of students in school eligible for free or reduced-price lunch (0.2 percent), and teacher race/ethnicity (0.5 percent). Percents are computed within each classification variable, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

questionnaire responses were conducted to check the data for accuracy and consistency. Cases with missing or inconsistent items were recontacted by telephone. Data were keyed with 100 percent verification.

Variances

The standard error is a measure of the variability of estimates due to sampling. It indicates the variability of a sample estimate that would be obtained from all possible samples of a given design and size. Standard errors are used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. For example, the estimated percentage of teachers who have a master's degree is 45.3 percent, and the estimated standard error is 1.1 percent. The 95 percent confidence interval for the statistic extends from [45.3 – (1.1 times 1.96)] to [45.3 + (1.1 times 1.96)], or from 43.1 to 47.5 percent. Tables of standard errors for each table and figure in the report are provided in the appendices.

Estimates of standard errors were computed using a technique known as jackknife replication. As with any replication method, jackknife replication involves constructing a number of subsamples (replicates) from the full sample and computing the statistic of interest for each replicate. The mean square error of the replicate estimates around the full sample estimate provides an estimate of the variances of the statistics. To construct the replications, 50 stratified subsamples of the full sample were created and then dropped one at a time to define 50 jackknife replicates. A computer program (WesVarPC) was used to calculate the estimates of standard errors. WesVarPC is a stand-alone Windows application that computes sampling errors for a wide variety of statistics (totals, percents, ratios, log-odds ratios, general functions of estimates in tables, linear regression parameters, and logistic regression parameters).

The test statistics used in the analysis were calculated using the jackknife variances and thus appropriately reflected the complex nature of the sample design. In particular, an adjusted chi-square test using Satterthwaite's approximation to the design effect was used in the analysis of the two-way tables. Finally, Bonferroni adjustments were made to control for multiple comparisons where appropriate. For example, for an "experiment-wise" comparison involving g pairwise comparisons, each difference was tested at the 0.05/g significance level to control for the fact that g differences were simultaneously tested.

Definitions of Analysis Variables

School instructional level – Schools were classified according to their grade span in the Common Core of Data (CCD).

Elementary school - lowest grade less than or equal to grade 3 and highest grade less than or equal to grade 8.

Middle school – lowest grade greater than or equal to grade 4 and highest grade less than or equal to grade 9.

High school – lowest grade greater than or equal to grade 9 and highest grade less than or equal to grade 12.

Combined school – lowest grade less than or equal to grade 3 and highest grade greater than or equal to grade 9.

School enrollment size – total number of student enrolled as defined by the Common Core of Data (CCD).

Less than 300 students

300 to 499 students

500 to 999 students

1,000 or more students

Locale – as defined in the Common Core of Data (CCD).

Central city – a large or mid-size central city of a Metropolitan Statistical Area (MSA).

Urban fringe/large town – urban fringe is a place within an MSA of a central city, but not primarily its central city; large town is an incorporated place not within an MSA, with a population greater than or equal to 25,000.

Small town/rural – small town is an incorporated place not within an MSA, with a population less than 25,000 and greater than or equal to 2,500; rural is a place with a population less than 2,500 and/or a population density of less than 1,000 per square mile, and defined as rural by the U.S. Bureau of the Census.

Geographic region –

Northeast - Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania

Midwest - Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas

South - Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas

West - Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, Hawaii

Percent minority enrollment in the school – The percent of students enrolled in the school whose race or ethnicity is classified as one of the following: American Indian or Alaskan Native, Asian or Pacific Islander, black, or Hispanic, based on data in the 1995-96 CCD file. Data on this variable were missing for 0.4 percent of the teachers. The break points used for analysis were based on empirically developed quartiles from the weighted survey data.

5 percent or less

6 to 20 percent

21 to 50 percent

More than 50 percent

Percent of students at the school eligible for free or reduced-price lunch – This was based on information collected from the school during the teacher list collection phase; if it was missing from the list collection, it was obtained from the CCD file, if possible. Data on this variable were missing for 0.2 percent of the teachers. This item served as the measurement of the concentration of poverty at the school. The break points used for analysis were based on empirically developed quartiles from the weighted survey data.

Less than 15 percent

15 to 32 percent

33 to 59 percent

60 percent or more

Main teaching assignment – based on responses to the survey questionnaire.

Self-contained classroom – The teacher teaches all or most academic subjects to the same group of students all or most of the day (Q1=1).

Math/science – The teacher teaches mathematics or science in a departmentalized setting, teaching the subject to several classes of different students all or most of the day (Q1=2 and Q4A1=43 or 44).

Other targeted academic subject – The teacher teaches English/language arts, social studies/social science, or foreign language in a departmentalized setting, teaching the subject to several classes of different students all or most of the day (Q1=2 and Q4A1=41 or 42 or 45).

Teaching experience – total years of teaching experience, based on responses to question 14 on the survey questionnaire.

3 or fewer years

4 to 9 years

10 to 19 years

20 or more years

Teacher race/ethnicity – based on responses to questions 12 (Hispanic or Latino origin) and 13 (race) on the survey questionnaire. Question 13 specified that teachers should circle one or more racial categories to describe themselves. Data on this variable were missing for 0.5 percent of the teachers.

White, non-Hispanic – white only, and not Hispanic.

Black, non-Hispanic – black or African American only, and not Hispanic.

Other – Hispanic or Latino, American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, and multi-racial (i.e., anyone who selected more than one race to identify themselves).

Sex – The sex of the teacher, based on question 11 on the survey questionnaire.

Male

Female

It is important to note that many of the school and teacher characteristics used for independent analyses may also be related to each other. For example, enrollment size and instructional level of schools are related, with middle and high schools typically being larger than elementary schools. Similarly, poverty concentration and minority enrollment are related, with schools with a high minority enrollment also more likely to have a high concentration of poverty. Other relationships between analysis variables may exist. Because of the relatively small sample size used in this study, it is difficult to separate the independent effects of these variables. Their existence, however, should be considered in the interpretation of the data presented in this report.

Comparisons to the 1993-94 Schools and Staffing Survey

Data from the 1993-94 Schools and Staffing Survey (SASS) teacher questionnaire were reanalyzed for questionnaire items that are the same or similar to items on the FRSS questionnaire. The questionnaire items from the SASS teacher survey are shown in appendix F, and the detailed tables from the analyses are shown in appendix C. As a first step in the reanalysis process, a subset of teachers and schools was selected from SASS that was approximately the same as the teachers and schools sampled for FRSS. Regular full-time teachers who taught in grades 1 through 12 in regular public schools (i.e., excluding special education, vocational, and alternative/other schools) in the 50 states and the District of Columbia defined the overall eligible group of teachers. Within that group, teachers were selected for inclusion in the subset for these analyses if their main teaching assignment was either general elementary or a core academic subject area (defined here as English/language arts, social studies/social science, foreign language, mathematics, or science), based on question 21 in the SASS teacher questionnaire. For comparability to the FRSS survey, a teacher was considered to be a self-contained classroom teacher if the main teaching assignment was specified as general elementary (code 03).[2] A teacher was considered to be a math/science teacher if the main assignment was specified as mathematics (33), or one of the sciences (57 through 61 and 09). A teacher was considered to be a teacher of one of the other targeted academic subjects if the main teaching assignment was specified as English/language arts (21), journalism (16), reading (43), social studies/social science (47), or one of the foreign languages (51 through 56).

Teachers were classified for instructional level of the school based on the categorization used for the FRSS survey (see above). In addition, the category splits for the percent minority enrollment in the school and the percent of students eligible for free or reduced-price lunch were based on the empirically developed quartiles from the weighted FRSS survey data. Information about the race of the teacher was collected in a slightly different way on the SASS questionnaire. Teachers were only allowed to select one racial category to describe themselves, and the categories were American Indian or Alaska Native, Asian or Pacific Islander, black, and white. The weighted distributions of the SASS teachers by the various classification variables are shown in table C-1. Teachers were assigned as departmentalized or general elementary for the average class size calculations based on their main teaching assignment, with math/science and other targeted academic teachers considered departmentalized. Approximately 5 percent of the teachers were excluded from the SASS class size analyses, either because they taught "pull-out" classes, where they provided instruction to students who were released from their regular classes (2 percent), or because of reporting problems in their class size information (3 percent).

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[2] For clarity, these teachers are referred to throughout the report as general elementary teachers for both the 1998 FRSS and 1993-94 SASS studies.

When there are differences between the FRSS and SASS data, there are a number of possible reasons for such differences that should be considered. One possible reason, of course, is that the differences show actual change between 1993-94 and 1998. However, it is also important to consider other possibilities. While the subset of schools and teachers from SASS was selected to be as comparable as possible to the FRSS sample of schools and teachers, there may still be some differences in the samples for the two surveys. In addition, the questionnaires that the teachers completed were very different. The FRSS questionnaire was very short, consisting of three pages of questions and one page of codes. Information was collected in a very compact format, and at a fairly aggregated level. For example, teachers in departmentalized settings were asked about their main and secondary teaching assignments, rather than about all the courses they taught, and were asked about their teaching assignments and about major and minor fields of study for degrees held at an aggregated level (i.e., whether they taught courses or had degrees in science, rather than in chemistry or physics). The SASS questionnaire, on the other hand, was 35 pages long and asked teachers for very detailed information about courses taught and degrees held, as well as a lot of other information about the teacher and his or her job. Thus, the questionnaires provided very different response contexts for the teachers.

It is also important to be aware that some of the questions asked on the two questionnaires appear more similar at first glance than they actually are. For example, the FRSS questionnaire asked teachers whether they had participated in professional development activities in the last 12 months that focused on "new methods of teaching (e.g., cooperative learning)." The SASS questionnaire asked teachers whether they had participated in professional development programs since the end of the last school year that focused on "methods of teaching your subject field," and "cooperative learning in the classroom" as two separate questions. Another example is the item on parent support for teachers. The FRSS survey asked whether teachers agreed or disagreed with the statement, "parents support me in my efforts to educate their children." The SASS questionnaire asked whether teachers agreed or disagreed with the statement, "I receive a great deal of support from parents for the work I do." In addition, the FRSS survey had four statements about parent and school support, compared with 25 statements about school climate in the SASS survey, again creating a very different response context for the teachers. Thus, while differences between the FRSS and SASS data may reflect actual change, measurement issues must also be considered as possible explanations.

Calculations of Major Field of Study for a Bachelor's or Graduate Degree

A variable was constructed that combined information about all the major fields of study for the bachelor's, master's, and doctorate degrees into the categories of academic field, subject area education (i.e., the teaching of an academic field, such as mathematics education), general education, and other education fields (e.g., special education, curriculum and instruction, or educational administration). For the analyses presented in the text (see tables 1 and 2), each teacher was counted only once, even if he or she had more than one major or more than one degree. Major fields of study were selected in the order of academic field, subject area education, other education, and general education. For example, if a teacher had a bachelor's degree in general education and a master's degree in English, he or she was considered for these analyses to have majored in an academic field. Similarly, if a teacher had a bachelor's degree in mathematics and a master's degree in curriculum and instruction, he or she was also considered for these analyses to have majored in an academic field. Tables A-2 and A-3 provide information about duplicated degree counts. In these tables, teachers with more than one major or more than one degree are counted for each field of study in which they have a major or degree. Thus, a

Table A-2.—Percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1998

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	38	24	62	15
School instructional level				
Elementary school	22	11	85	14
Middle school	44	31	52	16
High school	66	44	24	15
Combined	55	48	28	14
Teaching experience				
3 or fewer years	50	16	53	5
4 to 9 years	41	21	59	10
10 to 19 years	32	26	66	19
20 or more years	36	28	63	18

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

NOTE: Percents are duplicated. That is, teachers with more than one major or more than one degree are counted for each field of study in which they have a major or degree.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table A-3.—Percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1993-94

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	39	29	61	15
School instructional level				
Elementary school	24	16	84	15
Middle school	44	36	51	15
High school	67	50	19	14
Combined	55	47	31	12
Teaching experience				
3 or fewer years	46	22	52	5
4 to 9 years	38	25	60	11
10 to 19 years	35	30	64	17
20 or more years	40	33	61	17

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

NOTE: Percents are duplicated. That is, teachers with more than one major or more than one degree are counted for each field of study in which they have a major.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

teacher with a bachelor's degree in general education and a master's degree in English would be counted once under academic field and once under general education in table A-2 or A-3. However, a teacher with a bachelor's degree in English and a master's degree in history would be counted only once in table A-2 or A-3, since both degrees were in an academic field.

Calculations of In-Field Teaching

A measure of in-field teaching was constructed that compared the fields in which teachers had undergraduate or graduate majors or minors with the fields in which they had their main teaching assignments (i.e., the field in which they reported that they taught the most courses). A major or minor was considered in field if it was in either the academic field (e.g., mathematics) or subject area education (e.g., mathematics education) that matched the main teaching assignment. This measure was constructed for any teacher who taught English/language arts, foreign language, social studies/social science, mathematics, or science in a departmentalized setting in any of grades 7 through 12. Teachers were defined as teaching in field if they had an undergraduate or graduate major or minor in the field of their main teaching assignment. Details of how this measure was constructed are provided below.

The in-field teaching analyses were based on teacher level (grades taught) rather than on the instructional level of the school. Any teacher who provided departmentalized instruction and who taught in grade 7 or above (for the first set of analyses) or grade 9 or above (for the second set of analyses) was included, regardless of whether he or she also taught any lower grades. Teachers of self-contained classrooms at all levels were excluded, as were teachers who taught only in grade 6 or below, even if they provided departmentalized instruction. The in-field teaching measure was constructed only for the main teaching assignment, because there were too few teachers in the FRSS sample with a secondary teaching assignment to provide meaningful estimates for in-field teaching in the secondary assignment.

In-field teaching was defined as having a major or minor at the bachelor's, master's, or doctorate level in the field of the main teaching assignment. The in-field teaching measure was constructed at the aggregate level of English/language arts, social studies/social science, foreign language, math, and science. The measure was constructed this way because the FRSS questionnaire collected information about degrees and teaching assignments at this aggregated level, rather than at a lower level of aggregation (e.g., whether a teacher had degrees or taught courses in chemistry or physics) because of space limitations on the FRSS questionnaire. The main teaching assignment field was matched against the major and minor fields of study for the FRSS data as shown in exhibit A-1, using the categorization approach from SASS. The numbers in parentheses indicate the code numbers on the FRSS questionnaire.

The main teaching assignment field was matched against the major and minor fields of study for the SASS data as shown in exhibit A-2. The numbers in parentheses indicate the code numbers on the SASS questionnaire.

Exhibit A-1.—Match of main teaching assignment field with major and minor fields of study: FRSS 1998

Teaching assignment	Major and minor fields of study
English/language arts (41)	English/reading education (54), English (72)
Foreign languages (42)	Foreign languages education (55), foreign languages (73)
Mathematics (43)	Mathematics education (56), engineering (71), mathematics (74)
Science (44)	Science education (57), science (75)
Social studies/social science (45)	Social studies/social sciences education (58), social sciences (76)

Exhibit A-2.—Match of main teaching assignment field with major and minor fields of study: SASS 1993-94

Teaching assignment	Major and minor fields of study
English/language arts (21), journalism (16), reading (43)	English education (22), reading education (43), English (21), communications and journalism (16)
Foreign languages (51-56)	Foreign languages education (24), foreign languages (51-56)
Mathematics (33)	Mathematics education (34), engineering (20), mathematics (33)
Science (57-61, 09)	Science education (46), science (57-61)
Social studies/social science (47)	Social studies/social sciences education (48), social sciences (62-66), psychology (41), public affairs and services (42), other area and ethnic studies (87)

Background Information

The survey was performed under contract with Westat, using the Fast Response Survey System (FRSS). Westat's Project Director was Elizabeth Farris, and the Survey Manager was Laurie Lewis. Bernie Greene was the NCES Project Officer. The data were requested by Terry Dozier, Office of the Secretary, U.S. Department of Education.

This report was reviewed by the following individuals:

Outside NCES

- Susan Choy, MPR Associates
- Richard Ingersoll, University of Georgia
- David Mandel, MPR Center for Curriculum and Professional Development
- Judith Thompson, Connecticut State Department of Education

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- Shelley Burns, Early Childhood, International, and Crosscutting Studies Division
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- Marilyn McMillen, Chief Statistician
- Martin Orland, Associate Commissioner, Early Childhood, International, and Crosscutting Studies Division
- John Ralph, Early Childhood, International, and Crosscutting Studies Division

For more information about the Fast Response Survey System (FRSS), contact Bernie Greene, Early Childhood, International, and Crosscutting Studies Division, National Center for Education Statistics, Office of Educational Research and Improvement, U.S. Department of Education, 555 New Jersey Avenue, NW, Washington, DC 20208-5651, e-mail: Bernard_Greene@ed.gov, telephone (202) 219-1366. For more information about the Teacher Survey on Professional Development and Training, contact Edith McArthur, Early Childhood, International, and Crosscutting Studies Division, National Center for Education Statistics, Office of Educational Research and Improvement, U.S. Department of Education, 555 New Jersey Avenue, NW, Washington, DC 20208-5651, e-mail: Edith_McArthur@ed.gov, telephone (202) 219-1442.

Appendix B

Detailed Tables of Estimates
and
Tables of Standard Errors
for the
1998 FRSS Survey

Table of Contents

Detailed Tables of Estimates and Tables of Standard Errors for the 1998 FRSS Survey

Table **Page**

B-1 Number and percent of full-time public school teachers, by selected school and teacher characteristics: 1998 7

B-1a Standard errors of the number and percent of full-time public school teachers, by selected school and teacher characteristics: 1998 8

B-2 Percent of full-time public school teachers who hold bachelor's, master's, doctorates, other degrees, and/or other certificates, by selected school and teacher characteristics: 1998 9

B-2a Standard errors of the percent of full-time public school teachers who hold bachelor's, master's, doctorates, other degrees, and/or other certificates, by selected school and teacher characteristics: 1998 10

B-3 Average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1998 11

B-3a Standard errors of the average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1998 12

B-4 Percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1998 13

B-4a Standard errors of the percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1998 14

B-5 Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1998 15

B-5a Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1998 16

B-6 Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1998 17

B-6a Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1998 18

B-7 Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998 19

B-7a Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998 20

Table of Contents (continued)

Detailed Tables of Estimates and Tables of Standard Errors for the 1998 FRSS Survey (continued)

Table **Page**

B-8 Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998 21

B-8a Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998 22

B-9 Percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 23

B-9a Standard errors of the percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 27

B-10 Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 31

B-10a Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 35

B-11 Percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998 39

B-11a Standard errors of the percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998 42

B-12 Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 45

B-12a Standard errors of the percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 48

B-13 Percent of full-time public school teachers who participated in a formal induction program when they first began teaching, by selected school and teacher characteristics: 1998 51

B-13a Standard errors of the percent of full-time public school teachers who participated in a formal induction program when they first began teaching, by selected school and teacher characteristics: 1998 52

Table of Contents (continued)

Detailed Tables of Estimates and Tables of Standard Errors for the 1998 FRSS Survey (continued)

Table		Page
B-14	Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1998	53
B-14a	Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1998	54
B-15	Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1998	55
B-15a	Standard errors of the percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1998	57
B-16	Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998	59
B-16a	Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998	63

Table B-1.—Number and percent of full-time public school teachers, by selected school and teacher characteristics: 1998

School and teacher characteristic	Number	Percent
All targeted public school teachers[1]	1,460,261	100
School instructional level		
Elementary school	766,212	52
Middle school	284,776	20
High school	338,406	23
Combined	70,867	5
School enrollment size		
Less than 300	157,481	11
300 to 499	329,779	23
500 to 999	652,949	45
1,000 or more	320,053	22
Locale		
Central city	453,094	31
Urban fringe/large town	554,043	38
Rural/small town	453,124	31
Region		
Northeast	259,653	18
Midwest	357,746	24
South	563,111	39
West	279,751	19
Percent minority enrollment in school		
5 percent or less	376,307	26
6 to 20 percent	371,809	26
21 to 50 percent	349,323	24
More than 50 percent	356,971	25
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	368,984	25
15 to 32 percent	348,641	24
33 to 59 percent	367,132	25
60 percent or more	372,331	26
Main teaching assignment		
General elementary[2]	733,651	50
Math/science	307,840	21
Other targeted academic subject	418,771	29
Teaching experience		
3 or fewer years	202,204	14
4 to 9 years	324,219	22
10 to 19 years	369,393	25
20 or more years	564,107	39
Teacher race/ethnicity		
White, non-Hispanic	1,259,063	87
Black, non-Hispanic	103,552	7
Other	90,082	6
Sex		
Male	367,638	25
Female	1,092,623	75

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Details may not sum to totals because of rounding. Percents are computed within each classification variable, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-1a.—Standard errors of the number and percent of full-time public school teachers, by selected school and teacher characteristics: 1998

School and teacher characteristic	Number	Percent
All targeted public school teachers[1]	14,464	•
School instructional level		
Elementary school	12,938	0.5
Middle school	5,164	0.4
High school	7,501	0.5
Combined	6,150	0.4
School enrollment size		
Less than 300	11,563	0.8
300 to 499	11,799	0.7
500 to 999	14,712	1.0
1,000 or more	6,621	0.5
Locale		
Central city	9,014	0.6
Urban fringe/large town	13,868	0.8
Rural/small town	11,505	0.7
Region		
Northeast	13,780	0.9
Midwest	15,707	1.0
South	17,723	1.3
West	19,201	1.3
Percent minority enrollment in school		
5 percent or less	15,614	1.0
6 to 20 percent	16,000	1.1
21 to 50 percent	13,527	0.9
More than 50 percent	14,233	0.9
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	16,508	1.1
15 to 32 percent	20,308	1.3
33 to 59 percent	17,868	1.3
60 percent or more	14,312	0.9
Main teaching assignment		
General elementary[2]	14,149	0.6
Math/science	7,695	0.5
Other targeted academic subject	8,295	0.6
Teaching experience		
3 or fewer years	7,235	0.5
4 to 9 years	13,765	0.9
10 to 19 years	12,308	0.8
20 or more years	15,615	1.0
Teacher race/ethnicity		
White, non-Hispanic	15,090	0.8
Black, non-Hispanic	8,973	0.6
Other	6,644	0.5
Sex		
Male	11,995	0.8
Female	17,909	0.8

•Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-2.—Percent of full-time public school teachers who hold bachelor's, master's, doctorates, other degrees, and/or other certificates, by selected school and teacher characteristics: 1998

School and teacher characteristic	Bachelor's degree	Master's degree	Doctorate degree	Other degree	Other certificate
All targeted public school teachers[1]	100**	45	1	1	5
School instructional level					
Elementary school	100	40	1	1	4
Middle school	100**	46	1	2	5
High school	100	55	2	1	5
Combined	100	49	3	*	7
School enrollment size					
Less than 300	100	37	0	1	6
300 to 499	100	47	1	1	5
500 to 999	100	42	1	1	4
1,000 or more	100**	54	2	1	5
Locale					
Central city	100**	46	2	1	6
Urban fringe/large town	100	49	1	1	4
Rural/small town	100	40	*	1	5
Region					
Northeast	100**	60	2	1	6
Midwest	100	51	*	1	4
South	100**	39	1	2	4
West	100	38	1	1	5
Percent minority enrollment in school					
5 percent or less	100	49	*	2	5
6 to 20 percent	100	51	1	1	3
21 to 50 percent	100	43	1	1	4
More than 50 percent	100**	38	1	1	7
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	100	57	2	1	4
15 to 32 percent	100	46	1	1	5
33 to 59 percent	100**	41	1	2	4
60 percent or more	100	37	1	1	6
Main teaching assignment					
General elementary[2]	100	41	1	1	4
Math/science	100**	49	2	1	4
Other targeted academic subject	100**	50	1	1	6
Teaching experience					
3 or fewer years	100**	16	1	2	4
4 to 9 years	100	31	*	1	3
10 to 19 years	100	48	1	1	5
20 or more years	100	62	2	1	6
Teacher race/ethnicity					
White, non-Hispanic	100**	46	1	1	5
Black, non-Hispanic	100	41	2	1	2
Other	100**	34	1	2	6
Sex					
Male	100**	51	2	1	4
Female	100**	43	1	1	5

*Less than 0.5 percent.

**Rounds to 100 percent for presentation in the tables.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Zeros indicate that no teacher in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-2a.—Standard errors of the percent of full-time public school teachers who hold bachelor's, master's, doctorates, other degrees, and/or other certificates, by selected school and teacher characteristics: 1998

School and teacher characteristic	Bachelor's degree	Master's degree	Doctorate degree	Other degree	Other certificate
All targeted public school teachers[1]	0.02	1.1	0.2	0.2	0.3
School instructional level					
Elementary school	*	1.8	0.2	0.3	0.6
Middle school	0.1	1.9	0.2	0.5	0.7
High school	*	1.5	0.5	0.3	0.7
Combined	*	3.7	1.6	0.2	1.8
School enrollment size					
Less than 300	*	2.6	*	0.5	1.8
300 to 499	*	2.1	0.5	0.3	1.0
500 to 999	*	1.9	0.3	0.3	0.6
1,000 or more	0.1	1.7	0.4	0.3	0.7
Locale					
Central city	0.1	2.1	0.4	0.3	0.8
Urban fringe/large town	*	1.6	0.3	0.3	0.5
Rural/small town	*	1.5	0.2	0.4	0.7
Region					
Northeast	0.1	2.8	0.8	0.3	1.2
Midwest	*	2.0	0.2	0.4	0.7
South	0.03	1.6	0.3	0.3	0.7
West	*	2.0	0.3	0.3	0.9
Percent minority enrollment in school					
5 percent or less	*	1.9	0.2	0.6	0.8
6 to 20 percent	*	2.1	0.5	0.3	0.7
21 to 50 percent	*	2.1	0.4	0.4	0.7
More than 50 percent	0.1	2.2	0.3	0.4	0.9
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	*	1.8	0.6	0.3	0.7
15 to 32 percent	*	2.0	0.3	0.3	0.8
33 to 59 percent	0.1	2.4	0.3	0.4	0.6
60 percent or more	*	2.3	0.2	0.4	1.1
Main teaching assignment					
General elementary[2]	*	1.8	0.3	0.3	0.6
Math/science	0.05	1.8	0.4	0.4	0.8
Other targeted academic subject	0.05	1.5	0.3	0.3	0.6
Teaching experience					
3 or fewer years	0.1	1.6	0.3	0.5	0.8
4 to 9 years	*	2.3	0.1	0.4	0.6
10 to 19 years	*	1.8	0.3	0.3	0.9
20 or more years	*	1.5	0.4	0.3	0.7
Teacher race/ethnicity					
White, non-Hispanic	0.02	1.1	0.2	0.2	0.4
Black, non-Hispanic	*	4.2	0.8	0.4	1.1
Other	0.2	4.1	0.9	1.0	1.8
Sex					
Male	0.1	1.8	0.6	0.3	0.6
Female	0.01	1.4	0.2	0.2	0.4

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-3.—Average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1998

School and teacher characteristic	Total years as a teacher	Years as a teacher in the current school
All targeted public school teachers[1]	15	10
School instructional level		
Elementary school	15	10
Middle school	15	9
High school	17	11
Combined	16	11
School enrollment size		
Less than 300	16	11
300 to 499	16	10
500 to 999	15	10
1,000 or more	16	10
Locale		
Central city	15	8
Urban fringe/large town	16	10
Rural/small town	16	11
Region		
Northeast	18	12
Midwest	17	12
South	14	9
West	14	8
Percent minority enrollment in school		
5 percent or less	17	13
6 to 20 percent	16	10
21 to 50 percent	15	9
More than 50 percent	13	8
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	16	11
15 to 32 percent	17	11
33 to 59 percent	16	10
60 percent or more	13	8
Main teaching assignment		
General elementary[2]	15	10
Math/science	15	10
Other targeted academic subject	16	11
Teaching experience		
3 or fewer years	2	2
4 to 9 years	6	4
10 to 19 years	14	9
20 or more years	26	17
Teacher race/ethnicity		
White, non-Hispanic	16	10
Black, non-Hispanic	15	9
Other	13	8
Sex		
Male	16	11
Female	15	10

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-3a.—Standard errors of the average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1998

School and teacher characteristic	Total years as a teacher	Years as a teacher in the current school
All targeted public school teachers[1]	0.2	0.2
School instructional level		
Elementary school	0.3	0.3
Middle school	0.4	0.3
High school	0.3	0.3
Combined	0.8	0.8
School enrollment size		
Less than 300	0.6	0.6
300 to 499	0.3	0.3
500 to 999	0.3	0.3
1,000 or more	0.3	0.3
Locale		
Central city	0.3	0.3
Urban fringe/large town	0.3	0.3
Rural/small town	0.3	0.3
Region		
Northeast	0.4	0.4
Midwest	0.3	0.3
South	0.2	0.2
West	0.5	0.4
Percent minority enrollment in school		
5 percent or less	0.4	0.4
6 to 20 percent	0.4	0.3
21 to 50 percent	0.4	0.3
More than 50 percent	0.5	0.3
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	0.3	0.3
15 to 32 percent	0.4	0.4
33 to 59 percent	0.4	0.4
60 percent or more	0.4	0.3
Main teaching assignment		
General elementary[2]	0.3	0.3
Math/science	0.3	0.3
Other targeted academic subject	0.3	0.2
Teaching experience		
3 or fewer years	0.03	0.03
4 to 9 years	0.1	0.1
10 to 19 years	0.1	0.2
20 or more years	0.1	0.3
Teacher race/ethnicity		
White, non-Hispanic	0.2	0.2
Black, non-Hispanic	0.7	0.6
Other	0.7	0.6
Sex		
Male	0.3	0.3
Female	0.2	0.2

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-4.—Percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1998

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	93	3	2	1	1	0
School instructional level[2]						
Elementary school	93	3	2	1	1	0
School enrollment size						
Less than 300	96	1	1	1	*	0
300 to 499	94	3	1	1	*	0
500 to 999	92	4	2	2	1	0
1,000 or more	85	3	7	4	2	0
Locale						
Central city	91	3	2	2	1	0
Urban fringe/large town	92	4	2	2	*	0
Rural/small town	96	2	1	*	*	0
Region						
Northeast	91	5	1	3	0	0
Midwest	96	3	*	1	0	0
South	94	3	2	1	*	0
West	90	3	3	2	2	0
Percent minority enrollment in school						
5 percent or less	96	2	1	2	0	0
6 to 20 percent	95	3	1	1	*	0
21 to 50 percent	93	3	2	1	*	0
More than 50 percent	88	5	3	2	2	0
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	94	3	1	2	*	0
15 to 32 percent	95	3	1	1	0	0
33 to 59 percent	95	2	1	1	1	0
60 percent or more	90	4	3	2	1	0
Teaching experience						
3 or fewer years	65	11	11	8	4	0
4 to 9 years	92	5	1	2	*	0
10 to 19 years	99	1	*	*	0	0
20 or more years	99	1	0	0	0	0
Teacher race/ethnicity						
White, non-Hispanic	94	3	2	1	*	0
Black, non-Hispanic	88	7	1	4	1	0
Other	88	5	3	1	4	0
Sex						
Male	91	3	2	3	1	0
Female	93	3	2	1	1	0

*Less than 0.5 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] Data for general elementary classrooms are reported for elementary schools only. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in general elementary classrooms include all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level. Percents are computed across each row, but may not sum to 100 because of rounding. Zeros indicate that no teacher in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-4a.—Standard errors of the percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1998

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	0.7	0.4	0.3	0.3	0.2	*
School instructional level[2]						
Elementary school	0.7	0.4	0.3	0.3	0.2	*
School enrollment size						
Less than 300	1.1	0.6	0.5	0.6	0.2	*
300 to 499	1.1	0.9	0.4	0.5	0.2	*
500 to 999	1.0	0.6	0.6	0.5	0.4	*
1,000 or more	2.9	1.5	2.3	1.9	1.3	*
Locale						
Central city	1.3	0.8	0.5	0.6	0.6	*
Urban fringe/large town	1.0	0.7	0.6	0.6	0.2	*
Rural/small town	0.9	0.8	0.5	0.3	0.2	*
Region						
Northeast	1.8	1.7	0.6	0.8	*	*
Midwest	1.1	1.1	0.3	0.4	*	*
South	1.0	0.7	0.6	0.5	0.3	*
West	1.4	0.8	0.8	0.7	0.8	*
Percent minority enrollment in school						
5 percent or less	0.8	0.7	0.4	0.5	*	*
6 to 20 percent	1.1	0.7	0.5	0.5	0.1	*
21 to 50 percent	1.6	1.0	0.8	0.5	0.4	*
More than 50 percent	1.7	1.1	0.7	0.7	0.8	*
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	1.3	1.0	0.6	0.8	0.3	*
15 to 32 percent	1.5	1.1	0.5	0.6	*	*
33 to 59 percent	0.9	0.7	0.5	0.3	0.3	*
60 percent or more	1.3	0.9	0.7	0.5	0.7	*
Teaching experience						
3 or fewer years	3.1	2.1	2.1	1.9	1.5	*
4 to 9 years	1.6	1.4	0.4	0.7	0.3	*
10 to 19 years	0.6	0.6	0.2	0.2	*	*
20 or more years	0.5	0.5	*	*	*	*
Teacher race/ethnicity						
White, non-Hispanic	0.6	0.4	0.4	0.4	0.2	*
Black, non-Hispanic	3.5	2.7	0.6	1.7	0.8	*
Other	3.2	2.0	1.3	0.6	1.6	*
Sex						
Male	2.0	1.1	0.9	1.1	0.8	*
Female	0.7	0.5	0.3	0.3	0.2	*

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] Data for general elementary classrooms are reported for elementary schools only. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in general elementary classrooms include all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-5.—Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	92	4	2	1	1	*
School instructional level[2]						
Middle school	93	3	2	1	1	*
High school	91	4	3	1	1	*
Combined	87	4	5	3	*	1
School enrollment size						
Less than 300	95	2	2	0	1	*
300 to 499	89	5	4	1	1	1
500 to 999	93	4	2	1	1	*
1,000 or more	91	3	3	2	1	0
Locale						
Central city	90	3	3	2	1	*
Urban fringe/large town	92	3	2	1	1	*
Rural/small town	92	5	2	1	1	*
Region						
Northeast	90	5	4	1	0	*
Midwest	93	4	2	1	0	*
South	92	3	2	1	1	*
West	90	1	3	2	3	0
Percent minority enrollment in school						
5 percent or less	92	3	3	1	*	*
6 to 20 percent	94	3	2	1	*	*
21 to 50 percent	93	3	2	1	1	*
More than 50 percent	87	5	3	2	3	*
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	92	3	3	1	*	1
15 to 32 percent	93	3	2	2	1	*
33 to 59 percent	94	3	2	1	*	0
60 percent or more	87	5	3	2	3	1
Main teaching assignment						
Math/science	91	4	3	1	1	*
Other targeted academic subject	92	4	2	1	1	*
Teaching experience						
3 or fewer years	64	13	12	5	6	*
4 to 9 years	89	5	3	1	*	*
10 to 19 years	97	1	*	*	*	1
20 or more years	99	1	*	0	0	0
Teacher race/ethnicity						
White, non-Hispanic	93	3	3	1	*	*
Black, non-Hispanic	82	7	3	3	4	1
Other	85	5	2	2	5	1
Sex						
Male	90	4	3	1	1	1
Female	92	4	2	1	1	*

*Less than 0.5 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding. Zeros indicate that no teacher in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-5a.—Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	0.5	0.3	0.3	0.2	0.2	0.1
School instructional level[2]						
Middle school	0.6	0.4	0.3	0.3	0.3	0.2
High school	0.9	0.6	0.5	0.3	0.2	0.1
Combined	2.9	1.3	2.0	0.8	0.2	0.5
School enrollment size						
Less than 300	1.7	1.1	0.8	*	0.5	0.3
300 to 499	2.2	1.4	1.5	0.5	0.5	0.5
500 to 999	0.7	0.5	0.3	0.2	0.4	0.2
1,000 or more	0.9	0.6	0.5	0.5	0.3	*
Locale						
Central city	0.8	0.5	0.6	0.5	0.4	0.3
Urban fringe/large town	0.8	0.5	0.5	0.3	0.4	0.2
Rural/small town	1.1	0.8	0.7	0.3	0.2	0.1
Region						
Northeast	1.0	0.9	0.7	0.5	*	0.3
Midwest	1.5	0.8	0.8	0.3	*	0.3
South	0.7	0.6	0.4	0.3	0.3	0.2
West	1.4	0.4	0.8	0.7	1.1	*
Percent minority enrollment in school						
5 percent or less	1.4	0.7	0.8	0.3	0.1	0.3
6 to 20 percent	0.9	0.6	0.5	0.3	0.2	0.1
21 to 50 percent	1.0	0.7	0.6	0.4	0.3	0.2
More than 50 percent	1.2	0.8	0.6	0.7	0.8	0.3
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	1.2	0.6	0.7	0.4	0.2	0.3
15 to 32 percent	1.0	0.6	0.5	0.5	0.2	0.1
33 to 59 percent	1.0	0.7	0.4	0.3	0.2	*
60 percent or more	1.5	0.9	0.7	0.6	1.1	0.4
Main teaching assignment						
Math/science	0.7	0.5	0.5	0.3	0.3	0.2
Other targeted academic subject	0.6	0.5	0.4	0.3	0.3	0.2
Teaching experience						
3 or fewer years	2.3	1.5	1.5	1.2	1.4	0.3
4 to 9 years	1.5	1.0	0.8	0.6	0.3	0.3
10 to 19 years	0.7	0.5	0.2	0.2	0.2	0.3
20 or more years	0.4	0.4	0.1	*	*	*
Teacher race/ethnicity						
White, non-Hispanic	0.5	0.3	0.3	0.2	0.1	0.1
Black, non-Hispanic	3.0	1.7	1.4	1.1	1.5	1.0
Other	3.0	1.5	0.9	1.3	2.7	0.8
Sex						
Male	0.9	0.5	0.5	0.3	0.3	0.3
Female	0.6	0.5	0.3	0.3	0.3	0.1

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-6.—Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	85	3	1	2	1	8
School instructional level[2]						
Middle school	86	2	0	1	1	9
High school	82	3	2	3	*	9
Combined	78	8	*	0	0	13
School enrollment size						
Less than 300	88	3	0	0	0	9
300 to 499	81	5	3	2	*	9
500 to 999	87	3	1	1	2	7
1,000 or more	81	2	1	3	3	10
Locale						
Central city	81	4	1	3	1	10
Urban fringe/large town	85	2	2	2	2	7
Rural/small town	88	3	1	*	1	7
Region						
Northeast	84	4	2	1	0	10
Midwest	87	6	1	0	0	6
South	88	2	1	2	1	7
West	77	2	2	3	6	12
Percent minority enrollment in school						
5 percent or less	84	4	2	*	0	9
6 to 20 percent	93	2	1	1	0	3
21 to 50 percent	87	1	*	2	*	9
More than 50 percent	75	4	1	3	6	11
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	81	4	3	1	0	10
15 to 32 percent	88	3	1	1	0	7
33 to 59 percent	87	2	0	2	*	9
60 percent or more	82	2	1	2	6	7
Main teaching assignment						
Math/science	86	3	1	1	1	8
Other targeted academic subject	84	3	2	2	2	8
Teaching experience						
3 or fewer years	68	6	7	4	6	9
4 to 9 years	74	7	0	4	1	14
10 to 19 years	92	0	1	*	1	6
20 or more years	94	1	0	0	0	5
Teacher race/ethnicity						
White, non-Hispanic	86	3	1	2	*	8
Black, non-Hispanic	#	#	#	#	#	#
Other	76	4	0	1	7	11
Sex						
Male	81	3	2	2	1	11
Female	87	3	1	1	2	7

*Less than 0.5 percent.

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Percents are computed across each row, but may not sum to 100 because of rounding. Zeros indicate that no teacher in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-6a.—Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	1.8	0.8	0.5	0.6	0.7	1.5
School instructional level[2]						
Middle school	2.2	0.7	*	0.6	0.7	2.0
High school	3.0	1.5	1.1	1.5	0.3	2.7
Combined	8.9	5.3	0.4	*	*	4.9
School enrollment size						
Less than 300	3.8	2.0	*	*	*	3.0
300 to 499	4.5	2.4	2.4	1.4	0.4	2.8
500 to 999	2.5	1.0	0.5	0.5	1.2	2.1
1,000 or more	4.8	1.0	0.7	1.6	1.6	3.7
Locale						
Central city	3.4	1.5	0.7	1.6	0.8	2.9
Urban fringe/large town	3.1	0.9	1.4	1.0	1.7	2.3
Rural/small town	2.6	1.3	0.5	0.2	0.6	2.1
Region						
Northeast	4.5	2.1	1.6	0.7	*	4.1
Midwest	4.1	2.0	0.6	*	*	2.9
South	2.6	0.9	1.0	0.9	0.6	1.8
West	4.1	1.0	1.1	1.5	3.2	3.2
Percent minority enrollment in school						
5 percent or less	3.8	1.6	1.6	0.3	*	2.9
6 to 20 percent	1.8	1.1	0.8	0.8	*	1.4
21 to 50 percent	3.0	0.6	0.5	1.4	0.3	2.8
More than 50 percent	5.6	1.9	0.9	1.8	3.1	3.6
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	4.8	2.0	2.0	0.9	*	3.3
15 to 32 percent	3.1	1.4	0.7	0.9	*	2.8
33 to 59 percent	2.6	1.3	*	1.2	0.3	2.3
60 percent or more	4.6	1.3	0.8	1.3	3.0	2.3
Main teaching assignment						
Math/science	2.6	1.2	0.5	0.7	0.7	1.7
Other targeted academic subject	2.3	0.9	0.9	0.9	1.0	1.9
Teaching experience						
3 or fewer years	4.8	2.5	3.4	2.2	4.0	2.5
4 to 9 years	4.2	2.4	*	1.6	1.0	3.2
10 to 19 years	2.4	*	0.7	0.4	0.8	2.1
20 or more years	2.2	0.7	*	*	*	2.1
Teacher race/ethnicity						
White, non-Hispanic	1.7	0.7	0.6	0.6	0.2	1.6
Black, non-Hispanic	#	#	#	#	#	#
Other	7.3	2.6	*	1.4	6.6	4.5
Sex						
Male	3.0	1.1	1.5	1.1	0.8	2.9
Female	2.0	0.9	0.4	0.7	0.9	1.5

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-7.—Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	86	96	89	82	88
School enrollment size					
Less than 300	85	#	#	82	88
300 to 499	79	#	91	87	86
500 to 999	83	94	87	78	87
1,000 or more	92	99	91	85	91
Locale					
Central city	82	99	85	81	79
Urban fringe/large town	91	97	90	83	94
Rural/small town	85	94	91	82	89
Region					
Northeast	85	99	87	87	89
Midwest	89	97	82	86	93
South	87	90	92	80	88
West	84	#	92	78	80
Percent minority enrollment in school					
5 percent or less	87	94	88	85	93
6 to 20 percent	89	95	88	81	89
21 to 50 percent	86	100	93	87	88
More than 50 percent	83	#	86	76	81
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	90	96	91	87	93
15 to 32 percent	89	99	87	89	92
33 to 59 percent	86	#	89	81	81
60 percent or more	76	#	86	69	83
Teaching experience					
3 or fewer years	85	#	89	79	82
4 to 9 years	79	95	87	86	83
10 to 19 years	85	96	86	77	88
20 or more years	90	100	91	85	96
Teacher race/ethnicity					
White, non-Hispanic	87	96	88	81	88
Black, non-Hispanic	70	#	96	90	#
Other	#	#	#	87	93
Sex					
Male	91	95	93	87	92
Female	85	97	81	79	84

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-7a.—Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	1.4	1.3	1.6	2.1	1.8
School enrollment size					
Less than 300	5.2	#	#	8.2	6.8
300 to 499	5.0	#	4.6	5.7	6.0
500 to 999	2.8	3.4	3.2	3.6	3.1
1,000 or more	1.5	0.8	1.8	3.0	2.4
Locale					
Central city	3.4	1.4	3.7	4.4	3.8
Urban fringe/large town	1.8	2.2	2.5	3.3	1.8
Rural/small town	2.5	2.9	2.8	4.4	2.5
Region					
Northeast	3.6	1.3	4.2	4.8	3.9
Midwest	3.3	2.0	4.3	3.7	2.2
South	1.9	5.2	2.4	3.4	2.7
West	4.3	#	3.7	4.9	5.9
Percent minority enrollment in school					
5 percent or less	3.0	3.2	3.8	4.4	2.2
6 to 20 percent	2.6	2.8	3.6	3.7	3.1
21 to 50 percent	2.6	*	2.7	3.9	3.4
More than 50 percent	3.7	#	3.6	5.6	4.7
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	2.0	2.3	2.6	3.4	2.1
15 to 32 percent	2.7	1.1	3.6	3.1	2.8
33 to 59 percent	3.1	#	3.2	4.1	4.9
60 percent or more	5.0	#	4.4	6.4	6.0
Teaching experience					
3 or fewer years	3.6	#	3.6	3.9	3.3
4 to 9 years	4.3	3.7	3.4	4.0	4.8
10 to 19 years	3.3	2.7	4.3	5.3	3.4
20 or more years	1.9	*	2.6	3.5	2.0
Teacher race/ethnicity					
White, non-Hispanic	1.3	1.4	1.7	2.3	2.0
Black, non-Hispanic	10.2	#	3.3	5.3	#
Other	#	#	#	7.2	5.2
Sex					
Male	2.6	3.9	1.7	2.6	1.6
Female	1.7	1.3	3.6	3.2	3.3

#Too few cases for a reliable estimate.

*Standard error is not derived because it is based on a statistic estimated at 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-8.—Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	96	96	96	90	94
School enrollment size					
Less than 300	#	#	#	#	#
300 to 499	97	#	#	91	#
500 to 999	97	#	95	94	96
1,000 or more	95	99	96	88	94
Locale					
Central city	94	100	96	88	90
Urban fringe/large town	97	96	95	90	98
Rural/small town	97	93	97	90	93
Region					
Northeast	98	98	92	89	90
Midwest	94	97	94	93	97
South	97	#	97	90	94
West	96	#	100	84	94
Percent minority enrollment in school					
5 percent or less	96	93	95	90	95
6 to 20 percent	99	95	93	91	94
21 to 50 percent	95	#	98	94	95
More than 50 percent	94	#	97	82	92
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	97	96	97	90	94
15 to 32 percent	96	99	94	92	96
33 to 59 percent	96	#	97	91	90
60 percent or more	93	#	#	81	#
Teaching experience					
3 or fewer years	92	#	93	88	91
4 to 9 years	97	#	98	85	94
10 to 19 years	97	96	98	79	91
20 or more years	96	100	95	98	98
Teacher race/ethnicity					
White, non-Hispanic	97	96	95	89	94
Black, non-Hispanic	#	#	#	#	#
Other	#	#	#	#	#
Sex					
Male	95	#	96	89	95
Female	96	96	96	90	93

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-8a.—Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	1.0	1.5	1.2	2.0	1.4
School enrollment size					
Less than 300	#	#	#	#	#
300 to 499	3.3	#	#	5.7	#
500 to 999	1.5	#	2.9	3.7	2.1
1.000 or more	1.4	0.8	1.6	3.1	1.9
Locale					
Central city	2.3	•	2.2	4.6	4.5
Urban fringe/large town	1.6	2.9	2.3	3.5	1.3
Rural/small town	1.6	3.3	1.9	2.6	2.3
Region					
Northeast	1.9	1.7	3.9	5.2	4.4
Midwest	2.6	2.2	3.3	2.8	1.9
South	1.5	#	1.6	2.8	2.1
West	2.3	#	•	4.9	4.0
Percent minority enrollment in school					
5 percent or less	1.9	3.8	2.7	4.0	2.4
6 to 20 percent	1.4	3.3	3.2	2.8	3.0
21 to 50 percent	2.7	#	1.9	2.6	2.5
More than 50 percent	2.6	#	2.3	6.3	3.7
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	1.5	2.7	1.8	3.9	2.4
15 to 32 percent	1.8	1.3	2.7	2.5	3.0
33 to 59 percent	2.3	#	2.1	3.5	4.2
60 percent or more	3.9	#	#	8.8	#
Teaching experience					
3 or fewer years	3.2	#	3.9	4.5	3.2
4 to 9 years	2.4	#	2.4	5.4	4.6
10 to 19 years	2.0	3.2	2.5	5.3	3.6
20 or more years	1.5	•	2.0	1.3	1.7
Teacher race/ethnicity					
White, non-Hispanic	1.1	1.7	1.4	2.1	1.5
Black, non-Hispanic	#	#	#	#	#
Other	#	#	#	#	#
Sex					
Male	2.1	#	1.4	2.7	1.5
Female	1.2	1.6	2.5	2.6	2.6

#Too few cases for a reliable estimate.

•Standard error is not derived because it is based on a statistic estimated at 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-9.—Percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998

School and teacher characteristic	In-depth study in the subject area of your main teaching assignment				New methods of teaching (e.g., cooperative learning)			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	27	32	24	17	23	47	21	8
School instructional level								
Elementary school	25	32	26	17	22	48	20	9
Middle school	27	33	23	16	23	45	24	8
High school	33	31	19	17	24	47	22	6
Combined	29	30	23	19	22	47	20	11
School enrollment size								
Less than 300	28	34	22	16	25	46	19	11
300 to 499	28	33	22	17	25	48	20	8
500 to 999	26	32	26	17	23	47	22	9
1,000 or more	30	30	21	18	21	49	23	8
Locale								
Central city	24	32	26	18	22	48	22	9
Urban fringe/large town	28	31	23	18	23	47	22	9
Rural/small town	30	34	21	15	25	47	20	8
Region								
Northeast	29	31	23	18	23	46	22	9
Midwest	31	35	19	14	25	47	20	8
South	26	32	25	16	22	50	21	7
West	24	28	26	22	22	44	23	11
Percent minority enrollment in school								
5 percent or less	31	36	20	14	25	48	20	7
6 to 20 percent	24	34	25	17	25	49	20	7
21 to 50 percent	29	29	25	16	23	45	22	10
More than 50 percent	25	29	25	21	19	48	23	11
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	28	33	21	18	23	49	21	7
15 to 32 percent	30	30	23	16	25	45	22	7
33 to 59 percent	27	34	25	14	22	49	20	9
60 percent or more	25	30	25	20	22	46	22	10
Main teaching assignment								
General elementary[2]	25	32	26	17	22	48	20	10
Math/science	28	31	22	19	27	46	20	7
Other targeted academic subject	31	33	20	15	22	47	24	7
Teaching experience								
3 or fewer years	23	33	27	16	18	47	26	9
4 to 9 years	22	32	28	18	21	48	23	8
10 to 19 years	26	32	25	17	22	49	20	10
20 or more years	33	32	19	16	27	46	19	8
Teacher race/ethnicity								
White, non-Hispanic	28	32	23	16	24	47	21	8
Black, non-Hispanic	19	33	28	21	17	44	26	12
Other	24	29	24	24	15	49	22	14
Sex								
Male	30	32	21	17	24	46	23	7
Female	27	32	24	17	23	48	21	9

Table B-9.—Percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	State or district curriculum and performance standards				Integration of educational technology in the grade or subject you teach			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	19	50	25	7	22	49	22	7
School instructional level								
Elementary school	17	50	25	7	21	49	23	7
Middle school	19	48	27	6	20	50	23	7
High school	21	50	22	7	25	48	19	8
Combined	18	53	17	11	22	47	24	6
School enrollment size								
Less than 300	18	48	29	5	23	50	21	6
300 to 499	16	52	26	7	18	51	24	7
500 to 999	18	50	25	8	22	47	23	7
1,000 or more	23	49	21	7	24	49	20	8
Locale								
Central city	20	51	22	7	22	51	19	8
Urban fringe/large town	18	51	25	7	22	47	24	7
Rural/small town	18	48	27	7	22	49	22	7
Region								
Northeast	17	50	26	7	23	48	22	7
Midwest	20	50	23	7	20	49	23	8
South	19	53	22	6	21	51	22	6
West	18	44	29	9	25	45	23	8
Percent minority enrollment in school								
5 percent or less	18	50	25	7	22	46	25	7
6 to 20 percent	15	49	28	8	21	51	22	6
21 to 50 percent	21	49	23	7	22	47	23	8
More than 50 percent	21	52	21	6	23	52	18	7
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	18	50	24	8	19	47	27	7
15 to 32 percent	17	51	26	6	23	48	23	6
33 to 59 percent	20	48	25	7	22	51	19	8
60 percent or more	19	51	23	6	23	49	20	7
Main teaching assignment								
General elementary[2]	17	50	26	7	20	50	23	7
Math/science	20	53	21	7	23	49	19	9
Other targeted academic subject	21	49	24	7	24	47	23	6
Teaching experience								
3 or fewer years	22	55	19	4	28	49	18	5
4 to 9 years	16	51	25	8	21	46	23	10
10 to 19 years	16	48	28	8	21	48	23	7
20 or more years	20	49	24	7	21	51	22	6
Teacher race/ethnicity								
White, non-Hispanic	19	50	25	7	22	48	23	7
Black, non-Hispanic	20	51	21	8	16	56	20	8
Other	16	50	24	10	22	52	18	8
Sex								
Male	23	47	24	5	23	48	21	8
Female	17	51	25	7	22	49	22	7

Table B-9.—Percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Student performance assessment				Classroom management, including student discipline			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	33	47	15	5	51	38	8	3
School instructional level								
Elementary school	28	49	17	6	46	43	8	3
Middle school	35	48	13	3	53	36	8	3
High school	39	45	11	4	60	31	6	2
Combined	39	40	16	5	55	34	9	3
School enrollment size								
Less than 300	34	47	13	6	52	40	8	1
300 to 499	31	48	16	4	48	41	8	3
500 to 999	32	47	15	6	50	39	8	3
1,000 or more	35	46	13	5	56	34	7	3
Locale								
Central city	31	48	16	5	47	40	9	3
Urban fringe/large town	31	49	15	5	53	37	7	3
Rural/small town	36	45	13	5	53	38	7	2
Region								
Northeast	35	46	15	5	54	36	6	4
Midwest	37	48	12	4	56	36	7	1
South	32	49	15	4	46	42	9	3
West	28	45	19	8	54	36	7	3
Percent minority enrollment in school								
5 percent or less	37	47	11	5	58	35	5	2
6 to 20 percent	31	50	15	4	57	34	6	3
21 to 50 percent	35	44	15	6	48	42	8	2
More than 50 percent	28	49	18	6	41	43	12	4
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	34	47	14	4	60	31	6	3
15 to 32 percent	36	46	13	4	56	36	7	1
33 to 59 percent	32	48	14	6	51	38	8	3
60 percent or more	29	48	18	6	39	47	10	4
Main teaching assignment								
General elementary[2]	28	49	17	6	47	43	8	3
Math/science	41	44	12	3	60	31	6	2
Other targeted academic subject	35	46	14	5	53	35	8	4
Teaching experience								
3 or fewer years	34	48	15	3	35	46	14	4
4 to 9 years	28	48	18	6	47	42	7	4
10 to 19 years	31	48	16	4	54	36	7	2
20 or more years	36	46	12	5	57	35	6	2
Teacher race/ethnicity								
White, non-Hispanic	34	48	14	4	54	37	7	3
Black, non-Hispanic	24	47	20	9	33	48	13	6
Other	27	42	23	8	37	46	12	5
Sex								
Male	39	45	12	4	55	36	6	3
Female	31	48	16	5	50	39	8	3

Table B-9.—Percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds				Addressing the needs of students with disabilities			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	69	22	6	4	52	39	6	2
School instructional level								
Elementary school	69	21	6	4	50	41	6	3
Middle school	66	26	5	2	50	40	7	3
High school	68	22	5	4	59	33	6	1
Combined	75	17	5	3	52	35	8	5
School enrollment size								
Less than 300	80	16	3	1	52	38	7	4
300 to 499	74	20	4	2	51	41	6	2
500 to 999	67	23	6	4	51	39	7	3
1,000 or more	60	26	9	6	57	35	6	2
Locale								
Central city	58	29	8	5	53	38	6	2
Urban fringe/large town	67	22	7	4	52	39	6	3
Rural/small town	82	15	2	2	53	38	7	2
Region								
Northeast	78	17	3	2	51	39	7	3
Midwest	78	17	3	2	54	38	6	3
South	67	23	6	3	51	40	7	2
West	49	31	12	8	54	37	6	3
Percent minority enrollment in school								
5 percent or less	86	12	1	1	50	41	7	2
6 to 20 percent	71	23	3	3	53	38	6	3
21 to 50 percent	66	24	6	4	54	37	7	2
More than 50 percent	49	31	13	7	53	38	6	3
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	75	20	3	2	52	39	7	2
15 to 32 percent	74	19	5	2	53	37	7	3
33 to 59 percent	70	22	4	4	52	38	7	3
60 percent or more	56	27	11	6	52	40	6	3
Main teaching assignment								
General elementary[2]	70	20	7	4	51	40	6	3
Math/science	74	21	3	2	58	36	4	2
Other targeted academic subject	63	27	6	4	51	37	8	3
Teaching experience								
3 or fewer years	64	25	8	4	51	39	7	3
4 to 9 years	66	23	7	4	53	38	7	3
10 to 19 years	64	25	7	4	50	40	8	3
20 or more years	75	19	4	3	54	38	5	2
Teacher race/ethnicity								
White, non-Hispanic	72	21	5	3	54	38	6	3
Black, non-Hispanic	50	36	10	4	46	41	10	3
Other	44	28	17	11	44	44	10	1
Sex								
Male	67	23	6	4	55	37	6	2
Female	69	22	6	3	52	39	7	3

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Percents are computed across each row for each type of professional development program, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

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Table B-9a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998

School and teacher characteristic	In-depth study in the subject area of your main teaching assignment				New methods of teaching (e.g., cooperative learning)			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	0.8	0.7	0.7	0.5	0.7	1.0	0.8	0.5
School instructional level								
Elementary school	1.5	1.2	1.1	1.0	1.3	1.6	1.3	0.9
Middle school	1.6	1.7	1.5	1.2	1.6	1.6	1.5	0.9
High school	1.4	1.4	1.2	1.3	1.6	1.6	1.2	0.8
Combined	3.0	2.9	3.0	2.6	3.1	2.6	3.0	4.0
School enrollment size								
Less than 300	2.4	2.8	2.2	2.3	2.6	2.8	2.8	2.2
300 to 499	2.0	2.0	1.7	1.3	1.4	2.3	1.6	1.2
500 to 999	1.3	1.2	1.3	1.0	1.3	1.5	1.3	0.9
1,000 or more	1.5	1.4	1.2	1.4	1.3	1.6	1.4	1.1
Locale								
Central city	1.3	1.5	1.5	1.4	1.4	1.9	1.6	1.0
Urban fringe/large town	1.5	1.2	1.3	1.3	1.2	1.3	1.2	0.7
Rural/small town	1.5	1.4	1.3	1.3	1.4	1.7	1.4	1.0
Region								
Northeast	2.3	2.2	1.8	1.6	2.0	2.5	2.0	1.3
Midwest	1.7	1.9	1.6	1.3	1.7	1.9	1.6	1.1
South	1.4	1.4	1.4	1.2	1.5	1.4	1.3	0.9
West	2.0	2.1	2.1	1.8	1.7	2.1	1.9	1.3
Percent minority enrollment in school								
5 percent or less	1.9	1.6	1.4	1.5	1.8	1.7	1.6	1.1
6 to 20 percent	1.5	1.6	1.6	1.3	1.4	1.7	1.4	0.9
21 to 50 percent	1.5	1.6	1.6	1.4	1.7	2.1	1.7	1.5
More than 50 percent	1.7	1.6	2.0	1.7	1.5	2.0	1.3	1.1
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.6	1.6	1.4	1.5	1.7	1.9	1.6	0.7
15 to 32 percent	1.7	1.7	1.4	1.3	1.5	2.0	1.4	1.0
33 to 59 percent	1.8	2.0	1.7	1.4	1.5	1.7	1.5	1.2
60 percent or more	1.7	1.6	1.7	1.6	1.8	2.3	1.6	1.2
Main teaching assignment								
General elementary[2]	1.6	1.2	1.2	1.0	1.3	1.6	1.3	0.9
Math/science	1.4	1.4	1.4	1.1	1.5	1.8	1.2	0.9
Other targeted academic subject	1.4	1.6	1.2	1.0	1.2	1.5	1.1	0.8
Teaching experience								
3 or fewer years	1.8	1.8	1.5	1.5	1.3	1.6	1.7	1.0
4 to 9 years	1.9	2.0	1.9	1.6	1.5	2.0	1.8	1.1
10 to 19 years	1.7	1.6	1.6	1.3	1.8	2.0	1.6	1.0
20 or more years	1.6	1.2	1.2	1.1	1.4	1.5	1.3	0.9
Teacher race/ethnicity								
White, non-Hispanic	0.8	0.9	0.7	0.6	0.8	1.1	0.8	0.5
Black, non-Hispanic	3.4	3.6	3.7	3.6	2.9	3.4	3.1	2.7
Other	2.9	3.3	2.9	3.4	2.6	3.9	3.0	2.8
Sex								
Male	1.6	1.6	1.3	1.2	1.4	1.5	1.3	1.0
Female	1.1	0.9	0.8	0.7	0.9	1.1	0.8	0.6

Table B-9a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	State or district curriculum and performance standards				Integration of educational technology in the grade or subject you teach			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	0.8	1.1	0.8	0.4	0.8	1.0	0.8	0.5
School instructional level								
Elementary school	1.2	1.9	1.4	0.7	1.4	1.6	1.2	0.7
Middle school	1.4	1.8	1.8	0.9	1.5	1.8	1.2	0.9
High school	1.5	1.4	1.2	0.8	1.5	1.7	1.3	0.9
Combined	3.4	3.5	2.5	2.6	3.1	3.5	2.6	2.1
School enrollment size								
Less than 300	2.6	3.7	3.0	1.4	2.9	3.3	2.3	1.5
300 to 499	1.3	2.1	2.0	1.0	1.7	2.0	1.6	1.1
500 to 999	1.2	1.6	1.2	0.7	1.3	1.6	1.3	0.7
1,000 or more	1.5	1.7	1.2	1.0	1.5	1.8	1.3	1.0
Locale								
Central city	1.5	2.0	1.8	0.9	1.6	2.1	1.3	0.9
Urban fringe/large town	1.5	1.6	1.3	0.7	1.5	1.5	1.4	0.8
Rural/small town	1.3	1.5	1.6	0.9	1.3	1.5	1.4	0.9
Region								
Northeast	2.0	2.4	1.9	1.2	2.1	2.5	1.7	1.3
Midwest	1.7	1.9	1.5	0.8	1.7	1.9	1.5	1.0
South	1.3	1.6	1.3	0.7	1.4	1.5	1.4	0.6
West	1.8	2.4	2.2	1.4	2.2	2.5	2.1	1.2
Percent minority enrollment in school								
5 percent or less	1.6	1.8	1.7	1.0	1.7	1.9	1.5	1.0
6 to 20 percent	1.5	1.9	1.6	1.0	1.6	1.7	1.3	0.8
21 to 50 percent	1.7	2.2	1.5	1.1	1.7	2.2	1.8	1.1
More than 50 percent	1.7	2.2	1.9	0.9	1.9	2.2	1.4	0.9
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.5	1.6	1.4	1.0	1.6	1.5	1.7	1.1
15 to 32 percent	1.4	1.8	1.4	0.9	1.9	2.0	1.5	1.0
33 to 59 percent	1.4	2.0	1.8	1.0	1.6	1.9	1.2	0.9
60 percent or more	1.5	2.3	1.9	0.8	1.9	2.1	1.8	0.9
Main teaching assignment								
General elementary[2]	1.4	2.0	1.4	0.7	1.4	1.7	1.1	0.7
Math/science	1.1	1.5	1.2	0.9	1.3	1.7	1.3	1.2
Other targeted academic subject	1.3	1.2	1.2	0.7	1.3	1.4	1.2	0.8
Teaching experience								
3 or fewer years	1.5	2.1	1.7	0.8	1.8	2.5	1.8	1.0
4 to 9 years	1.5	2.2	1.7	1.3	1.9	1.9	1.6	1.2
10 to 19 years	1.3	2.2	2.0	1.1	1.5	2.0	1.7	1.0
20 or more years	1.4	1.4	1.6	0.7	1.3	1.4	1.5	0.7
Teacher race/ethnicity								
White, non-Hispanic	0.8	1.2	0.9	0.5	0.9	1.0	0.8	0.5
Black, non-Hispanic	3.3	5.0	3.8	1.9	2.5	3.9	3.5	1.7
Other	3.0	4.5	3.2	2.4	2.9	3.6	3.1	1.9
Sex								
Male	1.5	1.6	1.4	0.7	1.6	1.6	1.2	1.1
Female	1.0	1.4	1.1	0.5	1.0	1.1	0.9	0.5

Table B-9a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Student performance assessment				Classroom management, including student discipline			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	0.9	1.0	0.7	0.4	0.9	0.9	0.4	0.4
School instructional level								
Elementary school	1.5	1.6	1.3	0.7	1.6	1.7	0.8	0.6
Middle school	1.7	1.7	1.1	0.7	1.7	1.6	0.9	0.6
High school	1.7	1.5	1.1	0.6	1.5	1.2	0.7	0.5
Combined	3.6	3.2	2.2	1.6	3.7	2.7	1.8	1.2
School enrollment size								
Less than 300	3.1	3.2	1.8	1.3	3.3	3.0	1.8	0.5
300 to 499	2.2	2.3	1.7	0.9	2.0	2.3	1.0	0.8
500 to 999	1.5	1.4	1.1	0.7	1.4	1.4	0.7	0.6
1,000 or more	1.7	1.7	1.3	0.7	1.6	1.6	0.7	0.7
Locale								
Central city	1.6	1.8	1.4	0.8	2.1	2.2	1.0	0.6
Urban fringe/large town	1.5	1.4	1.2	0.7	1.5	1.3	0.8	0.5
Rural/small town	1.5	1.3	1.1	0.8	1.6	1.7	0.9	0.5
Region								
Northeast	2.2	2.1	1.6	1.2	2.0	1.9	1.0	0.9
Midwest	1.8	1.8	1.1	0.7	2.0	2.1	0.9	0.4
South	1.6	1.7	1.2	0.7	1.8	1.7	0.8	0.7
West	2.5	2.3	2.0	1.4	2.1	2.3	1.0	0.7
Percent minority enrollment in school								
5 percent or less	2.0	1.8	1.3	0.8	2.0	1.7	0.7	0.5
6 to 20 percent	1.7	2.0	1.4	0.8	1.5	1.6	0.9	0.8
21 to 50 percent	2.1	1.8	1.4	1.2	1.9	2.1	1.1	0.6
More than 50 percent	1.7	1.8	1.5	0.9	2.2	2.5	1.2	0.8
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.8	1.8	1.4	0.7	1.8	1.4	0.8	0.6
15 to 32 percent	1.8	1.6	1.3	0.7	1.6	1.5	0.8	0.4
33 to 59 percent	2.2	2.2	1.6	0.9	2.1	1.9	1.0	0.7
60 percent or more	1.8	1.5	1.5	0.9	2.2	2.3	1.2	0.8
Main teaching assignment								
General elementary[2]	1.5	1.5	1.3	0.7	1.5	1.7	0.8	0.5
Math/science	1.6	1.8	1.2	0.6	1.6	1.7	0.8	0.4
Other targeted academic subject	1.4	1.4	0.9	0.7	1.4	1.1	0.8	0.6
Teaching experience								
3 or fewer years	1.5	1.7	1.6	0.8	1.8	1.8	1.5	0.9
4 to 9 years	1.8	2.2	1.7	1.1	1.9	1.8	1.0	0.8
10 to 19 years	1.7	2.2	1.2	0.9	1.9	1.8	1.0	0.6
20 or more years	1.6	1.5	1.0	0.8	1.3	1.3	0.8	0.6
Teacher race/ethnicity								
White, non-Hispanic	1.0	1.1	0.8	0.5	0.9	0.9	0.4	0.4
Black, non-Hispanic	3.5	3.9	3.1	2.1	4.0	4.3	2.6	1.9
Other	4.1	3.7	3.6	2.1	3.7	4.2	2.3	1.7
Sex								
Male	1.6	1.7	1.1	0.7	1.8	1.9	0.7	0.6
Female	1.2	1.2	0.9	0.5	1.1	1.2	0.5	0.4

Table B-9a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities of various lengths in the last 12 months that focused on various topics, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds				Addressing the needs of students with disabilities			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	1.1	0.8	0.4	0.4	1.1	0.9	0.4	0.3
School instructional level								
Elementary school	1.7	1.3	0.7	0.7	1.7	1.5	0.7	0.5
Middle school	1.7	1.5	0.7	0.5	1.7	1.5	0.8	0.6
High school	1.7	1.4	0.8	0.6	1.9	1.7	0.7	0.3
Combined	3.7	3.2	1.6	1.4	2.6	3.3	1.9	1.6
School enrollment size								
Less than 300	3.1	2.3	1.1	0.8	3.3	3.0	1.5	1.1
300 to 499	2.1	1.7	0.8	0.7	2.3	2.3	1.0	0.6
500 to 999	1.8	1.3	0.6	0.8	1.7	1.6	0.7	0.5
1,000 or more	1.7	1.7	1.1	0.7	1.5	1.5	0.7	0.4
Locale								
Central city	2.0	1.7	1.0	0.9	1.9	1.6	0.9	0.5
Urban fringe/large town	1.5	1.2	0.8	0.7	1.8	1.6	0.7	0.5
Rural/small town	1.5	1.3	0.4	0.4	1.7	1.5	0.6	0.4
Region								
Northeast	2.2	1.7	0.7	0.6	2.7	2.7	1.0	0.9
Midwest	1.9	1.6	0.6	0.6	1.7	2.0	0.7	0.6
South	1.7	1.5	0.8	0.6	1.9	1.7	0.8	0.4
West	2.4	1.9	1.3	1.4	2.0	1.9	1.1	0.7
Percent minority enrollment in school								
5 percent or less	1.5	1.3	0.3	0.3	1.9	2.0	0.8	0.5
6 to 20 percent	1.9	1.7	0.6	0.5	2.2	2.1	0.8	0.6
21 to 50 percent	2.0	1.7	1.0	0.9	2.4	2.4	1.0	0.5
More than 50 percent	2.5	2.0	1.1	1.1	2.1	1.7	1.0	0.6
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.7	1.5	0.6	0.3	2.4	2.1	0.9	0.5
15 to 32 percent	1.8	1.6	0.9	0.6	1.9	1.8	0.8	0.7
33 to 59 percent	1.9	1.4	0.7	0.8	1.7	1.7	0.9	0.6
60 percent or more	2.3	1.9	1.1	1.1	2.4	2.1	0.9	0.6
Main teaching assignment								
General elementary[2]	1.7	1.3	0.7	0.7	1.8	1.6	0.7	0.5
Math/science	1.6	1.4	0.7	0.5	1.6	1.6	0.6	0.4
Other targeted academic subject	1.6	1.5	0.8	0.4	1.8	1.5	0.9	0.5
Teaching experience								
3 or fewer years	2.2	1.8	1.0	0.8	1.7	1.6	1.0	0.7
4 to 9 years	2.2	1.9	1.0	0.8	2.6	2.4	0.8	0.6
10 to 19 years	2.1	1.7	1.0	0.8	2.1	1.7	1.0	0.6
20 or more years	1.4	1.1	0.5	0.6	1.6	1.5	0.7	0.5
Teacher race/ethnicity								
White, non-Hispanic	1.1	0.9	0.4	0.4	1.2	1.2	0.4	0.3
Black, non-Hispanic	3.5	3.6	2.5	1.9	3.5	3.9	2.5	1.2
Other	4.0	3.8	2.9	2.6	3.1	3.1	2.3	0.9
Sex								
Male	1.6	1.5	0.7	0.6	1.9	1.8	0.7	0.6
Female	1.4	0.9	0.5	0.6	1.2	1.2	0.6	0.3

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-10.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	In-depth study in the subject area of your main teaching assignment				New methods of teaching (e.g., cooperative learning)			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	28	44	26	2	22	42	31	4
School instructional level								
Elementary school	30	44	25	1	27	43	27	3
Middle school	25	46	27	2	18	43	35	5
High school	29	41	27	3	18	40	37	5
Combined	27	44	27	2	13	36	44	7
School enrollment size								
Less than 300	30	36	30	4	23	36	38	3
300 to 499	33	40	26	1	25	43	28	3
500 to 999	26	48	24	2	23	43	30	4
1,000 or more	28	41	28	3	19	41	34	6
Locale								
Central city	28	43	26	3	25	42	29	4
Urban fringe/large town	30	44	25	1	24	42	30	5
Rural/small town	27	44	27	2	19	42	35	4
Region								
Northeast	29	44	25	2	22	43	32	3
Midwest	25	45	28	2	22	41	34	4
South	27	45	26	2	22	42	31	5
West	36	38	25	1	25	44	28	4
Percent minority enrollment in school								
5 percent or less	24	46	26	3	19	43	35	4
6 to 20 percent	27	44	28	1	20	42	33	6
21 to 50 percent	31	43	24	1	24	42	30	3
More than 50 percent	31	41	25	3	27	41	28	4
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	29	44	26	2	20	41	32	6
15 to 32 percent	28	45	25	1	18	46	32	4
33 to 59 percent	26	44	27	3	24	39	33	5
60 percent or more	31	42	26	1	28	42	28	2
Main teaching assignment								
General elementary[2]	30	44	25	1	27	43	26	3
Math/science	26	40	31	3	16	39	40	5
Other targeted academic subject	27	45	24	3	19	42	34	5
Teaching experience								
3 or fewer years	33	42	23	2	24	48	25	3
4 to 9 years	31	42	26	1	24	40	33	3
10 to 19 years	28	43	27	2	23	42	31	4
20 or more years	26	46	26	2	21	41	34	5
Teacher race/ethnicity								
White, non-Hispanic	27	45	26	2	20	43	33	4
Black, non-Hispanic	36	34	28	2	41	33	24	1
Other	38	43	17	2	32	45	17	7
Sex								
Male	23	43	32	3	16	38	37	8
Female	30	44	24	2	24	43	29	3

Table B-10.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	State or district curriculum and performance standards				Integration of educational technology in the grade or subject you teach			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	12	36	39	13	21	38	34	6
School instructional level								
Elementary school	14	40	38	8	23	40	33	4
Middle school	13	33	41	13	18	36	39	6
High school	7	28	40	24	21	36	34	10
Combined	8	35	39	18	18	43	31	8
School enrollment size								
Less than 300	12	35	43	10	20	41	34	5
300 to 499	12	35	42	11	21	41	33	5
500 to 999	13	39	37	12	22	39	34	5
1,000 or more	10	32	39	20	22	34	34	9
Locale								
Central city	14	37	36	12	24	36	34	7
Urban fringe/large town	11	37	39	13	21	38	35	5
Rural/small town	12	33	41	14	20	41	33	6
Region								
Northeast	13	35	39	13	20	39	35	6
Midwest	12	34	38	16	21	37	35	6
South	11	38	41	11	22	39	33	6
West	13	37	36	14	21	38	34	7
Percent minority enrollment in school								
5 percent or less	12	30	42	16	21	39	36	4
6 to 20 percent	11	37	39	14	19	40	33	7
21 to 50 percent	12	37	39	12	23	37	34	5
More than 50 percent	14	40	36	10	22	37	33	8
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	11	32	40	17	23	37	33	7
15 to 32 percent	10	38	39	14	18	42	34	6
33 to 59 percent	12	36	40	12	22	35	37	6
60 percent or more	15	39	37	9	23	39	32	5
Main teaching assignment								
General elementary[2]	14	40	38	8	22	40	33	5
Math/science	10	32	39	19	22	36	34	8
Other targeted academic subject	10	32	40	18	20	38	35	7
Teaching experience								
3 or fewer years	12	39	39	10	19	38	37	6
4 to 9 years	12	38	40	10	23	37	34	6
10 to 19 years	14	33	39	14	23	39	32	6
20 or more years	11	35	39	16	21	39	34	6
Teacher race/ethnicity								
White, non-Hispanic	11	35	40	14	20	39	34	6
Black, non-Hispanic	22	44	30	3	33	34	30	2
Other	17	34	34	14	25	33	34	8
Sex								
Male	8	30	43	18	20	37	35	8
Female	13	38	38	12	22	39	34	6

Table B-10.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Student performance assessment				Classroom management, including student discipline			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	17	39	38	6	19	39	35	7
School instructional level								
Elementary school	21	40	35	5	20	42	31	6
Middle school	14	37	43	6	20	39	35	6
High school	11	35	43	10	15	32	42	11
Combined	13	45	35	8	13	39	45	3
School enrollment size								
Less than 300	16	42	38	4	15	38	42	5
300 to 499	18	40	37	5	23	39	33	6
500 to 999	18	39	37	6	19	43	30	8
1,000 or more	15	35	40	9	15	34	42	9
Locale								
Central city	19	36	39	5	21	39	31	9
Urban fringe/large town	18	40	35	6	19	42	32	6
Rural/small town	14	39	40	7	16	37	41	6
Region								
Northeast	18	40	38	4	20	37	35	8
Midwest	14	39	40	8	18	35	40	7
South	19	38	37	6	19	42	32	7
West	18	39	37	7	18	40	34	8
Percent minority enrollment in school								
5 percent or less	14	38	42	6	13	37	44	6
6 to 20 percent	17	38	38	7	18	40	34	7
21 to 50 percent	18	40	37	5	17	42	35	7
More than 50 percent	21	38	36	6	25	40	27	8
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	18	37	38	7	18	39	36	7
15 to 32 percent	13	43	37	6	13	42	39	5
33 to 59 percent	18	36	40	6	18	39	34	9
60 percent or more	20	39	36	5	24	39	30	7
Main teaching assignment								
General elementary[2]	21	39	35	5	21	40	32	6
Math/science	12	33	46	9	16	39	36	9
Other targeted academic subject	15	40	38	7	17	38	38	7
Teaching experience								
3 or fewer years	20	39	36	5	28	39	30	3
4 to 9 years	16	40	38	7	18	43	35	4
10 to 19 years	18	38	36	7	17	37	38	8
20 or more years	17	38	40	5	16	40	34	10
Teacher race/ethnicity								
White, non-Hispanic	15	39	40	6	16	39	37	8
Black, non-Hispanic	36	37	24	3	36	39	20	5
Other	26	37	30	7	27	40	30	4
Sex								
Male	13	36	42	9	13	36	41	10
Female	19	39	37	5	21	41	33	6

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Table B-10.—Percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds				Addressing the needs of students with disabilities			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	18	34	40	9	14	36	44	6
School instructional level								
Elementary school	20	33	38	8	15	37	43	5
Middle school	14	36	40	10	16	35	44	5
High school	18	32	42	8	11	36	46	8
Combined	11	35	43	11	9	30	50	12
School enrollment size								
Less than 300	17	25	48	10	15	33	47	5
300 to 499	21	31	39	8	16	32	47	5
500 to 999	17	35	38	9	13	40	40	7
1,000 or more	16	34	41	8	14	31	47	7
Locale								
Central city	17	33	39	11	13	36	44	6
Urban fringe/large town	19	34	41	7	17	36	42	5
Rural/small town	17	36	40	7	12	35	46	7
Region								
Northeast	16	37	38	8	17	30	44	8
Midwest	17	28	45	10	14	35	46	6
South	17	36	38	9	15	38	42	6
West	20	32	40	8	11	38	46	6
Percent minority enrollment in school								
5 percent or less	18	26	42	13	14	35	43	7
6 to 20 percent	15	34	44	8	16	35	44	5
21 to 50 percent	15	36	42	7	13	39	44	4
More than 50 percent	21	35	35	9	14	34	44	8
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	17	31	44	8	18	35	40	6
15 to 32 percent	14	33	44	9	14	34	47	6
33 to 59 percent	12	34	43	11	13	37	45	5
60 percent or more	24	36	33	8	13	37	44	7
Main teaching assignment								
General elementary[2]	21	33	38	9	15	35	44	5
Math/science	10	35	45	10	9	34	51	5
Other targeted academic subject	17	35	40	8	16	37	39	8
Teaching experience								
3 or fewer years	18	36	38	8	18	34	42	6
4 to 9 years	17	33	40	10	13	37	43	7
10 to 19 years	17	35	37	10	15	37	42	6
20 or more years	18	31	43	7	13	35	47	6
Teacher race/ethnicity								
White, non-Hispanic	15	34	43	9	14	36	45	5
Black, non-Hispanic	28	29	33	10	26	28	36	10
Other	28	38	28	6	8	41	41	9
Sex								
Male	16	29	44	11	10	33	48	8
Female	18	35	38	8	15	37	43	5

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Percents are computed across each row for each type of professional development program, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-10a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	In-depth study in the subject area of your main teaching assignment				New methods of teaching (e.g., cooperative learning)			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	1.2	1.0	1.0	0.3	0.8	1.1	1.0	0.4
School instructional level								
Elementary school	1.6	1.8	1.4	0.4	1.5	1.7	1.7	0.6
Middle school	2.2	2.2	1.9	0.6	1.6	1.8	2.2	0.8
High school	1.5	1.8	1.2	0.5	1.3	1.8	1.8	0.8
Combined	3.8	3.8	3.9	1.5	2.9	4.9	4.1	2.0
School enrollment size								
Less than 300	3.8	3.3	2.8	1.4	3.4	3.7	3.8	1.1
300 to 499	2.9	2.7	2.3	0.3	2.5	2.7	3.0	0.9
500 to 999	1.7	1.9	1.6	0.4	1.4	1.6	1.5	0.6
1,000 or more	2.3	2.2	1.7	0.6	1.6	2.0	1.9	1.0
Locale								
Central city	1.7	1.7	1.6	0.6	1.8	1.7	1.4	0.7
Urban fringe/large town	2.0	2.2	1.6	0.3	1.5	1.9	1.5	0.6
Rural/small town	1.7	1.9	1.8	0.6	1.4	2.1	1.7	0.8
Region								
Northeast	2.8	2.3	2.5	0.7	2.0	2.1	2.2	0.7
Midwest	2.2	2.2	1.8	0.7	1.8	2.2	2.1	1.0
South	1.8	1.5	1.7	0.5	1.4	1.9	1.6	0.7
West	2.3	2.5	1.5	0.4	2.2	2.6	2.0	0.9
Percent minority enrollment in school								
5 percent or less	1.9	2.2	1.9	0.8	1.8	2.3	2.1	0.8
6 to 20 percent	2.5	2.1	2.0	0.4	1.6	1.7	1.7	1.0
21 to 50 percent	2.3	2.4	2.1	0.4	2.2	2.1	2.0	0.8
More than 50 percent	2.0	1.6	1.9	0.6	2.1	2.4	1.9	0.8
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	2.3	2.5	2.0	0.6	1.6	2.1	1.8	1.0
15 to 32 percent	2.1	2.1	1.8	0.3	1.6	2.2	1.9	0.7
33 to 59 percent	1.8	2.0	1.9	0.8	2.0	1.7	1.8	0.9
60 percent or more	2.1	2.1	2.0	0.4	1.9	2.3	2.0	0.5
Main teaching assignment								
General elementary[2]	1.6	1.9	1.5	0.4	1.4	1.7	1.7	0.6
Math/science	2.2	2.1	2.0	0.6	2.1	2.1	2.1	1.1
Other targeted academic subject	1.4	1.4	1.3	0.6	1.2	1.8	1.7	0.8
Teaching experience								
3 or fewer years	1.9	2.3	2.0	0.5	1.7	2.2	1.8	0.7
4 to 9 years	2.5	2.5	2.0	0.4	1.7	2.3	2.1	0.8
10 to 19 years	2.1	2.3	2.3	0.6	2.1	2.3	2.2	0.7
20 or more years	2.0	1.9	1.5	0.6	1.5	1.5	1.8	0.7
Teacher race/ethnicity								
White, non-Hispanic	1.3	1.2	1.0	0.3	0.9	1.2	1.1	0.5
Black, non-Hispanic	4.1	3.3	3.9	0.8	4.7	3.6	3.4	0.7
Other	4.5	4.2	3.6	1.3	4.4	4.3	2.9	1.9
Sex								
Male	1.7	2.2	1.9	0.7	1.4	1.8	1.9	1.1
Female	1.4	1.4	1.3	0.4	1.0	1.1	1.1	0.4

Table B-10a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	State or district curriculum and performance standards				Integration of educational technology in the grade or subject you teach			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	0.6	1.1	1.1	0.7	1.0	1.0	1.0	0.5
School instructional level								
Elementary school	0.9	1.9	1.7	1.1	1.6	1.7	1.6	0.8
Middle school	1.2	2.0	1.9	1.4	1.8	1.8	1.9	0.9
High school	0.9	1.6	1.7	1.4	1.4	2.0	1.9	1.0
Combined	2.3	4.0	4.1	2.6	3.5	3.5	3.3	1.9
School enrollment size								
Less than 300	2.1	3.7	3.5	1.8	3.1	3.4	2.8	1.3
300 to 499	1.7	2.3	2.2	1.2	2.1	2.3	2.1	0.9
500 to 999	1.2	1.7	1.6	1.1	1.5	1.4	1.4	0.7
1,000 or more	1.5	1.7	1.9	1.4	1.6	1.9	2.1	1.3
Locale								
Central city	1.3	2.0	1.8	1.2	1.8	1.6	2.0	1.1
Urban fringe/large town	0.9	1.7	1.7	1.3	1.5	1.5	1.3	0.7
Rural/small town	1.1	1.8	1.9	1.3	1.7	2.1	1.8	0.9
Region								
Northeast	1.8	2.3	2.0	1.6	2.0	2.6	2.4	1.2
Midwest	1.4	1.9	2.3	1.4	1.7	1.7	1.5	1.1
South	0.9	1.8	1.7	1.1	1.5	1.5	1.7	0.8
West	1.6	2.4	2.2	1.8	2.1	2.3	2.4	1.2
Percent minority enrollment in school								
5 percent or less	1.5	2.0	2.2	1.5	1.9	2.0	2.0	0.7
6 to 20 percent	1.3	1.8	1.7	1.5	1.9	2.3	2.2	1.3
21 to 50 percent	1.4	2.2	2.1	1.4	2.2	2.1	1.8	1.1
More than 50 percent	1.4	2.4	1.8	1.3	2.2	1.9	2.1	1.3
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.3	2.0	2.2	1.5	1.6	2.0	1.8	0.8
15 to 32 percent	1.3	2.0	2.4	1.1	1.7	2.0	2.0	1.1
33 to 59 percent	1.5	1.7	1.7	1.3	2.0	2.0	2.3	1.0
60 percent or more	1.6	2.7	2.2	1.3	1.9	1.8	2.0	1.1
Main teaching assignment								
General elementary[2]	1.0	1.9	1.8	1.2	1.6	1.7	1.7	0.8
Math/science	1.5	2.0	1.9	1.3	1.5	1.7	1.8	1.2
Other targeted academic subject	0.9	1.6	1.5	1.3	1.4	1.7	1.6	0.9
Teaching experience								
3 or fewer years	1.3	2.0	2.3	1.2	1.8	2.0	2.1	1.0
4 to 9 years	1.6	2.7	2.1	1.3	1.9	2.3	2.2	1.2
10 to 19 years	1.5	1.7	2.4	1.5	1.6	2.4	2.1	1.0
20 or more years	1.2	1.8	1.8	1.2	1.8	1.7	2.0	0.8
Teacher race/ethnicity								
White, non-Hispanic	0.7	1.2	1.1	0.8	1.0	1.1	1.1	0.6
Black, non-Hispanic	2.9	4.3	4.4	1.0	4.2	4.2	3.5	1.1
Other	3.7	3.5	3.9	2.9	3.6	3.6	4.2	2.2
Sex								
Male	1.1	2.1	2.1	1.6	1.8	1.6	1.4	1.0
Female	0.7	1.2	1.3	0.9	1.1	1.3	1.2	0.6

Table B-10a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Student performance assessment				Classroom management, including student discipline			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	0.9	1.2	1.0	0.6	1.1	1.2	1.3	0.8
School instructional level								
Elementary school	1.5	1.9	1.9	0.9	1.6	1.5	1.8	1.1
Middle school	1.5	2.5	2.2	1.0	1.9	2.1	2.0	1.3
High school	1.3	2.2	1.8	1.2	1.5	2.2	2.3	1.4
Combined	2.9	5.4	4.7	2.4	3.2	5.0	5.5	1.6
School enrollment size								
Less than 300	3.1	4.2	4.5	1.5	3.7	4.5	4.2	2.0
300 to 499	2.2	2.5	2.4	1.1	3.0	2.6	2.6	1.4
500 to 999	1.1	2.0	1.8	0.9	1.7	1.7	2.0	1.2
1,000 or more	1.5	2.2	2.2	1.1	1.9	2.4	2.7	1.5
Locale								
Central city	1.6	2.0	2.3	0.8	2.1	2.6	2.2	1.1
Urban fringe/large town	1.5	2.1	1.4	0.8	1.9	2.1	2.0	1.2
Rural/small town	1.5	2.4	2.2	1.2	1.8	1.9	2.6	1.2
Region								
Northeast	2.5	3.1	3.0	1.0	2.6	2.4	2.6	1.9
Midwest	1.8	2.4	2.4	1.4	2.4	2.6	2.9	1.7
South	1.4	1.8	1.9	0.8	1.9	1.9	2.3	1.0
West	2.0	2.8	2.6	1.2	2.5	3.1	3.1	1.8
Percent minority enrollment in school								
5 percent or less	1.7	2.5	2.4	1.4	2.0	2.8	3.1	1.8
6 to 20 percent	1.7	2.1	2.0	1.2	2.1	2.3	2.6	1.7
21 to 50 percent	1.7	2.2	2.3	0.9	2.0	2.6	2.5	1.6
More than 50 percent	2.0	2.5	2.3	0.9	2.2	2.7	2.3	1.4
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	2.2	2.7	2.3	1.2	2.2	2.7	2.8	2.1
15 to 32 percent	1.7	2.1	2.4	1.0	2.0	2.6	2.8	1.4
33 to 59 percent	1.8	2.2	2.3	1.3	1.6	2.4	2.4	1.5
60 percent or more	1.8	2.6	2.5	0.8	2.2	2.5	2.5	1.3
Main teaching assignment								
General elementary[2]	1.5	1.8	1.8	0.9	1.6	1.6	1.9	1.1
Math/science	1.8	1.7	2.1	1.3	1.9	2.8	2.5	1.5
Other targeted academic subject	1.1	2.0	1.7	0.8	1.5	2.2	1.9	1.1
Teaching experience								
3 or fewer years	2.0	2.3	2.4	0.9	2.3	2.3	2.0	0.8
4 to 9 years	1.9	2.5	2.4	1.2	2.3	2.8	3.1	1.1
10 to 19 years	1.9	2.4	2.3	1.3	2.4	2.9	3.6	1.6
20 or more years	1.6	1.7	1.8	0.8	2.2	2.3	2.4	1.7
Teacher race/ethnicity								
White, non-Hispanic	1.0	1.3	1.2	0.7	1.1	1.2	1.4	0.9
Black, non-Hispanic	4.2	4.6	3.9	1.3	5.2	5.2	3.5	1.8
Other	4.2	4.8	4.5	2.1	4.8	4.9	4.9	2.2
Sex								
Male	1.7	2.2	2.1	1.1	1.9	2.6	2.6	1.4
Female	1.0	1.4	1.4	0.7	1.3	1.2	1.5	0.8

Table B-10a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds				Addressing the needs of students with disabilities			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	1.4	1.6	1.6	0.9	0.9	1.6	1.6	0.6
School instructional level								
Elementary school	2.4	2.6	2.6	1.4	1.5	2.5	2.3	1.0
Middle school	1.9	2.9	3.5	1.9	1.7	2.2	2.4	1.1
High school	1.9	2.4	2.5	1.4	1.4	2.3	2.5	1.4
Combined	4.3	6.4	6.8	3.9	3.4	4.6	4.4	3.5
School enrollment size								
Less than 300	6.4	5.7	5.9	3.8	2.9	3.9	4.2	1.6
300 to 499	3.3	3.8	3.8	2.1	2.7	3.4	3.2	1.2
500 to 999	1.9	2.4	2.4	1.4	1.4	2.1	1.9	1.1
1,000 or more	2.1	2.3	2.1	1.3	1.9	2.3	2.5	1.6
Locale								
Central city	2.1	2.6	2.9	1.7	1.7	2.4	2.6	1.3
Urban fringe/large town	2.3	2.6	2.8	1.1	1.4	2.4	2.3	1.1
Rural/small town	2.6	3.4	3.5	1.9	1.6	2.5	2.2	1.3
Region								
Northeast	3.1	4.5	4.1	2.7	3.0	2.8	3.7	1.8
Midwest	2.6	4.1	4.1	2.1	2.0	2.8	2.5	1.1
South	2.3	2.2	2.6	1.5	1.2	2.0	2.1	1.0
West	3.0	3.0	2.9	1.4	2.1	3.2	3.3	1.7
Percent minority enrollment in school								
5 percent or less	3.9	3.7	4.7	3.7	2.0	2.3	2.4	1.2
6 to 20 percent	3.0	4.2	3.9	1.7	2.2	3.4	3.4	1.1
21 to 50 percent	2.8	3.2	3.5	1.5	1.6	2.4	2.3	1.1
More than 50 percent	2.4	3.0	2.5	1.7	1.9	2.4	2.9	1.5
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	2.6	3.4	3.9	1.8	2.1	3.3	3.2	1.3
15 to 32 percent	2.7	3.1	3.6	2.1	1.6	2.3	2.8	1.3
33 to 59 percent	2.2	3.5	3.4	1.8	2.1	2.8	3.3	1.1
60 percent or more	2.8	2.8	2.6	1.7	1.9	3.0	3.2	1.4
Main teaching assignment								
General elementary[2]	2.4	2.6	2.6	1.3	1.5	2.6	2.3	1.0
Math/science	1.9	3.4	3.3	1.5	1.9	2.3	3.1	1.1
Other targeted academic subject	1.8	2.1	2.4	1.4	1.5	2.5	2.5	1.2
Teaching experience								
3 or fewer years	2.3	3.6	3.4	1.7	2.2	3.1	3.2	1.6
4 to 9 years	3.1	3.2	3.8	2.0	1.8	2.5	3.0	1.6
10 to 19 years	2.5	3.6	3.1	1.9	2.3	2.6	2.7	1.5
20 or more years	2.5	2.9	3.2	1.6	1.8	2.4	2.6	1.0
Teacher race/ethnicity								
White, non-Hispanic	1.6	1.9	1.9	0.9	1.1	1.8	1.8	0.6
Black, non-Hispanic	5.2	5.0	4.9	3.5	5.0	3.6	5.5	3.4
Other	5.4	5.0	5.3	2.4	2.5	5.1	4.5	3.1
Sex								
Male	2.5	2.6	2.5	1.9	1.3	2.5	2.7	1.5
Female	1.6	1.9	2.1	1.0	1.1	2.0	1.7	0.7

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-11.—Percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	Common planning period for team teachers					Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes				
	Frequency of activity					Frequency of activity				
	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week
All targeted public school teachers[1]	38	9	7	9	38	19	19	17	18	27
School instructional level										
Elementary school	27	11	9	12	40	15	18	18	20	29
Middle school	21	4	3	8	64	13	15	18	18	36
High school	69	8	4	5	15	29	23	16	13	19
Combined	65	10	4	4	16	30	27	14	11	18
School enrollment size										
Less than 300	44	6	6	10	34	28	20	13	15	24
300 to 499	32	10	7	9	41	16	21	18	16	29
500 to 999	31	10	7	10	42	16	17	17	20	29
1,000 or more	54	7	6	6	27	24	19	19	15	24
Locale										
Central city	34	9	8	9	40	16	17	18	21	28
Urban fringe/large town	35	10	6	9	39	19	18	18	17	28
Rural/small town	44	8	5	8	34	22	22	15	15	26
Region										
Northeast	39	8	4	11	39	21	18	15	16	31
Midwest	42	9	5	8	35	20	23	17	16	23
South	35	9	6	8	42	18	17	17	18	30
West	35	10	12	12	31	18	19	21	19	24
Percent minority enrollment in school										
5 percent or less	45	8	4	9	34	21	24	15	15	26
6 to 20 percent	35	9	7	9	40	18	20	18	19	26
21 to 50 percent	37	9	7	9	38	19	17	16	18	30
More than 50 percent	33	10	8	10	38	17	15	20	19	28
Percent of students in school eligible for free or reduced-price school lunch										
Less than 15 percent	42	7	6	8	37	19	21	18	16	26
15 to 32 percent	39	10	7	9	36	21	21	16	17	26
33 to 59 percent	40	8	6	9	37	17	20	16	19	27
60 percent or more	29	11	8	10	41	19	14	19	18	30
Main teaching assignment										
General elementary[2]	28	11	10	12	39	15	18	17	20	30
Math/science	48	6	3	6	37	23	19	18	15	24
Other targeted academic subject	47	8	4	5	36	22	21	17	15	26
Teaching experience										
3 or fewer years	39	7	7	9	38	19	14	16	19	32
4 to 9 years	35	8	8	8	40	18	18	18	18	28
10 to 19 years	36	10	6	8	39	18	22	18	15	28
20 or more years	40	10	6	10	35	20	20	17	18	25
Teacher race/ethnicity										
White, non-Hispanic	39	9	6	9	37	19	20	17	17	27
Black, non-Hispanic	35	9	7	9	41	14	11	18	23	34
Other	26	12	10	12	40	17	20	17	22	24
Sex										
Male	49	9	5	7	30	22	20	18	15	25
Female	34	9	7	10	40	18	18	17	18	28

Table B-11.—Percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Being mentored by another teacher in a formal relationship					Mentoring another teacher in a formal relationship				
	Frequency of activity					Frequency of activity				
	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week
All targeted public school teachers[1]	81	9	3	3	5	74	7	3	4	11
School instructional level										
Elementary school	81	9	2	4	4	74	8	3	4	11
Middle school	80	8	4	3	5	73	7	3	5	12
High school	82	9	2	3	4	76	7	4	4	10
Combined	80	10	3	3	5	75	8	4	7	7
School enrollment size										
Less than 300	84	9	2	2	4	78	8	1	3	10
300 to 499	82	8	2	2	5	78	5	3	4	11
500 to 999	80	9	3	4	4	72	9	3	5	11
1,000 or more	80	9	3	3	4	74	7	4	5	10
Locale										
Central city	78	9	3	4	5	71	8	4	5	13
Urban fringe/large town	82	8	2	3	5	74	8	3	4	11
Rural/small town	82	9	2	2	4	78	7	3	4	8
Region										
Northeast	86	7	2	2	4	76	5	2	4	12
Midwest	87	5	2	2	3	78	6	2	3	10
South	77	10	3	4	6	71	9	4	5	11
West	76	12	3	5	4	74	8	4	4	10
Percent minority enrollment in school										
5 percent or less	85	8	2	2	4	79	6	3	4	8
6 to 20 percent	85	6	2	2	4	77	6	3	4	11
21 to 50 percent	80	10	2	3	5	71	8	3	5	12
More than 50 percent	73	12	4	6	6	69	10	4	5	12
Percent of students in school eligible for free or reduced-price school lunch										
Less than 15 percent	84	7	2	3	4	75	7	3	4	12
15 to 32 percent	84	8	2	2	4	76	7	3	5	10
33 to 59 percent	82	8	2	4	4	74	8	4	3	11
60 percent or more	74	11	4	4	6	72	9	3	5	11
Main teaching assignment										
General elementary[2]	81	9	3	3	4	74	8	3	4	11
Math/science	81	9	3	3	4	76	7	4	4	9
Other targeted academic subject	81	8	3	3	5	74	8	3	5	11
Teaching experience										
3 or fewer years	42	18	8	14	18	88	5	2	2	2
4 to 9 years	79	11	3	4	4	75	7	3	5	10
10 to 19 years	88	7	1	1	2	68	9	4	5	14
20 or more years	91	5	1	1	2	73	8	3	4	12
Teacher race/ethnicity										
White, non-Hispanic	83	8	2	3	4	75	7	3	4	10
Black, non-Hispanic	64	11	4	7	14	61	9	8	6	16
Other	72	12	3	5	8	75	7	4	3	10
Sex										
Male	79	10	3	4	5	79	7	3	4	7
Female	81	8	3	3	4	73	8	3	5	12

Table B-11.—Percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Networking with teachers outside your school					Individual or collaborative research on a topic of interest to you professionally				
	Frequency of activity					Frequency of activity				
	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week
All targeted public school teachers[1]	39	37	11	7	6	47	25	8	9	10
School instructional level										
Elementary school	38	37	11	7	7	47	26	8	9	10
Middle school	37	37	11	9	6	43	28	7	10	11
High school	41	35	11	7	6	50	23	8	9	11
Combined	39	39	10	5	7	46	20	11	9	14
School enrollment size										
Less than 300	44	37	7	7	5	50	23	8	10	9
300 to 499	39	39	10	5	7	46	26	9	9	10
500 to 999	38	36	12	8	6	46	26	8	9	10
1,000 or more	37	35	12	9	7	47	24	8	10	11
Locale										
Central city	34	37	12	8	9	46	25	9	10	11
Urban fringe/large town	36	38	12	8	5	46	26	9	9	10
Rural/small town	46	35	8	5	5	49	24	8	9	9
Region										
Northeast	39	38	9	8	7	42	27	7	13	12
Midwest	41	35	10	8	6	49	25	7	8	10
South	42	36	11	6	5	49	25	8	8	9
West	30	39	14	8	9	43	24	11	11	12
Percent minority enrollment in school										
5 percent or less	45	37	8	5	5	49	25	7	9	10
6 to 20 percent	36	40	12	7	5	46	26	9	8	11
21 to 50 percent	39	35	11	9	7	47	24	8	10	10
More than 50 percent	35	35	12	9	9	46	26	9	10	10
Percent of students in school eligible for free or reduced-price school lunch										
Less than 15 percent										
15 to 32 percent	35	39	12	8	6	44	27	8	9	12
33 to 59 percent	41	36	11	6	6	48	24	9	10	10
60 percent or more	41	36	9	7	7	50	24	7	10	10
	39	36	11	8	7	46	26	10	9	9
Main teaching assignment										
General elementary[2]	38	36	11	8	7	46	26	9	9	9
Math/science	39	37	12	7	6	54	22	6	8	11
Other targeted academic subject	40	37	10	7	6	43	26	9	11	11
Teaching experience										
3 or fewer years	34	32	14	9	10	45	23	12	9	12
4 to 9 years	32	38	16	8	6	40	30	8	10	11
10 to 19 years	37	40	10	8	6	48	23	8	10	11
20 or more years	46	35	8	6	6	51	25	7	9	8
Teacher race/ethnicity										
White, non-Hispanic	39	37	11	7	6	47	25	8	10	10
Black, non-Hispanic	33	34	13	12	8	43	28	14	7	9
Other	39	32	13	9	8	43	24	10	9	14
Sex										
Male	44	31	10	7	8	50	20	8	9	13
Female	37	39	11	7	6	46	27	8	10	9

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Percents are computed across each row for each type of professional development program, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-11a.—Standard errors of the percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	Common planning period for team teachers					Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes				
	Frequency of activity					Frequency of activity				
	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week
All targeted public school teachers[1]	0.9	0.6	0.5	0.6	0.9	0.9	0.9	0.8	0.7	0.9
School instructional level										
Elementary school	1.3	1.2	0.9	1.0	1.6	1.2	1.4	1.4	1.0	1.4
Middle school	1.6	0.8	0.7	1.0	1.7	1.2	1.5	1.2	1.2	1.9
High school	1.6	0.8	0.5	0.7	1.2	1.4	1.2	1.2	1.1	1.3
Combined	4.3	2.3	1.7	1.3	3.3	3.5	3.3	2.0	2.6	4.0
School enrollment size										
Less than 300	3.1	1.3	1.5	2.3	3.1	2.7	3.1	2.0	2.4	2.8
300 to 499	1.9	1.6	1.2	1.4	2.5	1.6	2.1	1.5	1.6	1.9
500 to 999	1.5	1.1	0.8	1.0	1.6	1.1	1.1	1.3	1.3	1.3
1,000 or more	1.5	1.0	1.0	0.8	1.4	1.6	1.4	1.3	1.4	1.5
Locale										
Central city	1.3	1.1	1.1	1.0	1.7	1.1	1.2	1.4	1.4	1.4
Urban fringe/large town	1.7	1.2	0.9	1.1	1.7	1.4	1.4	1.3	1.2	1.4
Rural/small town	1.9	0.9	0.8	1.2	1.5	1.5	1.5	1.5	1.2	1.5
Region										
Northeast	2.3	1.2	1.1	1.7	2.6	1.9	1.7	1.9	2.0	2.2
Midwest	1.7	1.1	0.9	1.0	2.0	1.6	1.9	1.6	1.4	1.8
South	1.6	0.9	0.9	0.9	1.6	1.3	1.1	1.4	1.2	1.7
West	2.5	2.0	1.4	1.5	2.3	1.4	1.6	1.7	1.9	1.7
Percent minority enrollment in school										
5 percent or less	2.2	0.9	0.7	1.2	1.8	1.7	1.8	1.4	1.4	1.5
6 to 20 percent	2.2	1.5	1.2	1.3	2.3	1.7	1.7	1.4	1.8	1.8
21 to 50 percent	1.6	1.1	1.1	1.1	2.2	1.6	1.6	1.7	1.6	1.6
More than 50 percent	2.2	1.4	1.2	1.4	2.2	1.2	1.4	1.9	1.5	1.6
Percent of students in school eligible for free or reduced-price school lunch										
Less than 15 percent	1.9	1.0	1.2	1.1	2.1	1.5	1.6	1.5	1.5	1.7
15 to 32 percent	2.2	1.7	1.2	1.3	2.0	1.5	1.8	1.3	1.3	1.6
33 to 59 percent	1.8	1.2	1.2	1.2	1.7	1.4	1.8	1.8	1.5	1.6
60 percent or more	1.6	1.3	1.2	1.3	2.1	1.5	1.4	1.6	1.2	1.8
Main teaching assignment										
General elementary[2]	1.3	1.2	1.0	1.1	1.6	1.3	1.4	1.4	1.1	1.5
Math/science	1.4	0.9	0.7	0.9	1.4	1.6	1.6	1.3	1.5	1.4
Other targeted academic subject	1.4	0.8	0.5	0.7	1.2	1.2	1.2	1.1	1.1	1.3
Teaching experience										
3 or fewer years	2.0	1.2	1.2	1.2	2.0	1.8	1.4	1.0	1.5	1.7
4 to 9 years	2.1	1.3	1.4	1.2	2.5	1.5	1.7	1.7	1.4	1.3
10 to 19 years	1.6	1.4	1.1	1.2	2.3	1.6	1.6	1.7	1.5	1.9
20 or more years	1.7	1.2	0.8	1.0	1.5	1.3	1.3	1.1	1.2	1.5
Teacher race/ethnicity										
White, non-Hispanic	0.9	0.7	0.6	0.7	1.0	1.0	1.0	0.9	0.7	1.0
Black, non-Hispanic	3.8	2.4	2.0	2.4	4.4	2.6	2.2	3.1	2.9	3.8
Other	2.8	2.6	2.4	2.9	3.8	2.5	3.7	2.9	3.5	3.1
Sex										
Male	1.7	1.0	0.7	1.0	1.7	1.5	1.3	1.3	1.2	1.5
Female	1.0	0.9	0.7	0.8	1.1	0.9	1.1	1.1	0.9	1.1

Table B-11a.—Standard errors of the percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Being mentored by another teacher in a formal relationship					Mentoring another teacher in a formal relationship				
	Frequency of activity					Frequency of activity				
	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week
All targeted public school teachers[1]	0.6	0.5	0.2	0.3	0.4	0.8	0.5	0.3	0.5	0.6
School instructional level										
Elementary school	1.1	0.8	0.4	0.5	0.6	1.3	0.9	0.5	0.7	1.0
Middle school	1.6	0.9	0.7	0.5	0.8	1.6	0.9	0.6	0.8	1.1
High school	1.1	0.8	0.3	0.5	0.6	1.2	0.8	0.5	0.5	0.8
Combined	3.0	2.2	1.3	1.0	1.6	3.6	1.9	1.6	2.0	1.9
School enrollment size										
Less than 300	1.9	1.6	0.7	0.7	1.4	2.8	2.3	0.4	1.1	1.7
300 to 499	1.5	1.0	0.4	0.6	0.9	1.9	1.1	0.7	0.8	1.4
500 to 999	1.1	0.8	0.4	0.5	0.5	1.4	0.9	0.6	0.7	1.0
1,000 or more	1.1	1.0	0.5	0.5	0.6	1.5	0.9	0.7	0.7	1.1
Locale										
Central city	1.4	1.0	0.5	0.6	0.7	1.6	0.9	0.7	0.7	1.2
Urban fringe/large town	1.1	1.1	0.3	0.5	0.6	1.4	1.0	0.6	0.8	1.1
Rural/small town	1.1	0.9	0.5	0.4	0.7	1.6	1.0	0.5	0.7	1.2
Region										
Northeast	1.3	1.0	0.5	0.5	0.6	2.2	1.0	0.7	1.0	1.4
Midwest	1.0	0.9	0.4	0.5	0.5	1.6	0.9	0.6	0.6	1.3
South	1.3	1.0	0.4	0.7	0.8	1.4	1.1	0.5	0.7	1.0
West	1.8	1.4	0.6	0.8	0.9	1.8	1.1	0.8	1.0	1.5
Percent minority enrollment in school										
5 percent or less	1.3	1.1	0.4	0.4	0.7	1.4	0.8	0.6	0.7	1.1
6 to 20 percent	1.2	0.9	0.5	0.5	0.6	1.6	0.9	0.6	0.8	1.2
21 to 50 percent	1.4	1.1	0.5	0.6	0.7	1.6	1.1	0.7	0.8	1.1
More than 50 percent	1.7	1.5	0.6	1.1	0.9	2.1	1.5	0.7	0.9	1.6
Percent of students in school eligible for free or reduced-price school lunch										
Less than 15 percent	1.2	0.9	0.5	0.4	0.6	1.4	0.9	0.7	0.8	1.2
15 to 32 percent	1.2	1.0	0.4	0.4	0.7	1.5	1.0	0.6	0.9	1.2
33 to 59 percent	1.7	1.0	0.5	0.8	0.8	1.9	1.0	0.8	0.8	1.5
60 percent or more	1.7	1.4	0.6	0.9	0.9	2.0	1.7	0.6	0.8	1.5
Main teaching assignment										
General elementary[2]	1.0	0.8	0.4	0.5	0.5	1.3	0.8	0.5	0.7	1.0
Math/science	1.4	0.9	0.4	0.5	0.5	1.3	0.9	0.7	0.7	1.0
Other targeted academic subject	0.9	0.9	0.4	0.5	0.7	1.2	0.7	0.5	0.6	0.8
Teaching experience										
3 or fewer years	1.8	1.7	0.9	1.4	1.5	1.3	0.7	0.5	0.7	0.5
4 to 9 years	1.7	1.2	0.6	0.7	0.7	2.0	1.6	0.6	1.0	1.5
10 to 19 years	1.4	1.1	0.5	0.4	0.7	1.8	1.1	0.8	1.0	1.4
20 or more years	0.8	0.7	0.3	0.2	0.4	1.2	0.9	0.5	0.7	1.0
Teacher race/ethnicity										
White, non-Hispanic	0.7	0.6	0.3	0.3	0.3	0.9	0.6	0.3	0.5	0.7
Black, non-Hispanic	4.1	2.3	1.2	1.9	2.9	4.1	2.4	2.2	1.6	4.2
Other	3.1	2.1	1.1	1.5	2.0	3.4	1.9	1.7	1.6	2.1
Sex										
Male	1.4	1.0	0.5	0.6	0.6	1.0	0.8	0.5	0.5	0.8
Female	0.9	0.7	0.3	0.4	0.4	1.0	0.7	0.4	0.5	0.7

Table B-11a.—Standard errors of the percent of full-time public school teachers who participated with various frequency in the last 12 months in various activities related to teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Networking with teachers outside your school					Individual or collaborative research on a topic of interest to you professionally				
	Frequency of activity					Frequency of activity				
	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week	Never	A few times a year	Once a month	2 to 3 times a month	At least once a week
All targeted public school teachers[1]	0.9	1.0	0.5	0.5	0.4	0.9	0.8	0.6	0.6	0.5
School instructional level										
Elementary school	1.4	1.7	1.1	0.8	0.7	1.4	1.4	1.0	1.0	0.9
Middle school	1.8	2.0	1.2	0.9	0.6	1.8	1.7	0.9	0.9	1.1
High school	1.5	1.6	0.8	0.8	0.8	1.5	1.2	0.8	0.8	1.0
Combined	3.9	3.2	3.0	1.5	1.7	3.6	3.0	2.8	1.7	2.6
School enrollment size										
Less than 300	3.6	3.4	1.7	1.4	1.2	3.2	2.6	1.8	1.9	2.0
300 to 499	2.3	2.2	1.4	0.9	1.0	1.7	1.8	1.5	1.2	1.2
500 to 999	1.1	1.4	0.8	0.8	0.7	1.6	1.6	0.9	0.8	0.9
1,000 or more	1.9	1.9	1.2	1.0	0.8	1.6	1.3	0.9	1.1	1.1
Locale										
Central city	1.6	2.0	1.1	1.0	0.8	2.0	1.8	0.9	1.1	1.0
Urban fringe/large town	1.4	1.5	1.1	0.9	0.7	1.6	1.3	0.8	1.0	0.9
Rural/small town	1.6	1.5	0.9	0.6	0.7	1.6	1.6	1.0	1.0	0.9
Region										
Northeast	2.3	1.9	1.2	1.3	1.0	2.5	2.0	1.5	1.4	1.5
Midwest	1.8	1.9	1.3	1.0	0.9	1.9	1.7	1.1	1.2	1.2
South	1.6	1.6	0.8	0.7	0.6	1.5	1.7	1.0	0.9	0.9
West	2.3	2.5	1.6	1.0	1.2	2.1	1.8	1.4	1.8	1.4
Percent minority enrollment in school										
5 percent or less	1.9	1.9	1.1	0.8	0.8	1.7	1.6	1.1	1.0	1.0
6 to 20 percent	1.8	1.9	1.4	0.9	0.7	1.7	1.6	1.1	1.0	1.3
21 to 50 percent	1.7	1.8	1.1	1.3	0.9	1.7	1.9	1.2	1.2	1.1
More than 50 percent	1.7	2.0	1.2	1.0	1.0	2.3	1.8	1.2	1.3	0.9
Percent of students in school eligible for free or reduced-price school lunch										
Less than 15 percent	1.7	2.4	1.3	1.3	1.0	1.8	1.4	1.0	1.0	1.4
15 to 32 percent	1.8	1.9	1.0	0.7	0.9	1.9	1.5	1.2	1.1	1.0
33 to 59 percent	2.1	1.9	1.1	1.0	0.9	2.1	1.8	0.9	1.4	1.1
60 percent or more	1.9	2.1	1.2	1.0	0.9	2.1	1.8	1.2	1.2	0.9
Main teaching assignment										
General elementary[2]	1.4	1.8	1.0	0.8	0.7	1.4	1.3	1.1	1.0	0.9
Math/science	1.6	1.7	0.9	1.0	0.9	1.9	1.4	0.9	0.7	1.0
Other targeted academic subject	1.6	1.8	0.8	0.7	0.6	1.4	1.3	0.8	0.9	0.9
Teaching experience										
3 or fewer years	1.6	1.7	1.3	1.0	1.4	1.8	1.7	1.2	1.0	1.1
4 to 9 years	1.8	1.8	1.4	1.1	1.0	2.0	2.0	1.1	1.3	1.3
10 to 19 years	1.8	1.9	0.9	1.1	0.8	1.9	1.8	1.2	1.3	1.4
20 or more years	1.4	1.3	0.9	0.7	0.7	1.5	1.2	0.8	0.9	0.8
Teacher race/ethnicity										
White, non-Hispanic	0.9	1.0	0.6	0.5	0.5	0.9	1.0	0.6	0.7	0.6
Black, non-Hispanic	3.9	4.0	2.6	2.0	2.2	3.5	3.5	3.0	1.9	1.7
Other	3.7	3.4	2.4	2.1	2.3	3.7	3.5	2.2	2.3	2.4
Sex										
Male	1.7	1.4	0.8	0.9	1.0	1.8	1.4	0.8	0.9	1.1
Female	1.0	1.3	0.8	0.6	0.5	1.0	1.0	0.7	0.8	0.6

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998

Table B-12.—Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	Common planning period for team teachers				Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	40	33	23	4	29	35	31	5
School instructional level								
Elementary school	40	33	24	4	32	36	27	4
Middle school	46	33	18	4	29	37	30	4
High school	30	35	27	7	23	32	39	7
Combined	33	27	33	7	18	27	49	6
School enrollment size								
Less than 300	35	37	24	4	25	34	33	7
300 to 499	43	33	20	3	33	33	31	3
500 to 999	40	33	23	4	29	37	29	5
1,000 or more	38	31	24	6	27	33	34	6
Locale								
Central city	38	32	26	4	32	35	28	6
Urban fringe/large town	42	31	22	5	30	34	32	4
Rural/small town	39	37	20	4	25	36	35	4
Region								
Northeast	38	36	23	4	32	34	30	4
Midwest	40	33	23	4	25	32	36	6
South	41	31	23	4	29	37	29	4
West	41	33	21	4	31	34	30	5
Percent minority enrollment in school								
5 percent or less	39	34	24	3	27	31	36	6
6 to 20 percent	44	32	20	4	33	34	30	3
21 to 50 percent	42	35	19	4	27	39	29	4
More than 50 percent	36	30	27	6	29	36	29	6
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	45	30	22	3	33	32	30	5
15 to 32 percent	40	35	22	4	28	34	34	4
33 to 59 percent	39	33	23	4	24	36	34	5
60 percent or more	37	34	24	5	32	37	26	5
Main teaching assignment								
General elementary[2]	41	32	23	3	33	36	27	4
Math/science	35	37	23	5	22	33	38	7
Other targeted academic subject	41	31	22	6	27	34	34	6
Teaching experience								
3 or fewer years	46	28	23	4	32	35	28	4
4 to 9 years	41	35	21	4	34	32	31	4
10 to 19 years	41	33	22	4	28	37	29	6
20 or more years	37	34	24	5	26	35	34	5
Teacher race/ethnicity								
White, non-Hispanic	40	33	23	4	28	35	32	5
Black, non-Hispanic	41	32	24	3	33	37	26	4
Other	46	27	21	7	36	30	31	3
Sex								
Male	30	34	29	6	20	33	40	7
Female	43	32	21	4	32	36	28	4

Table B-12.—Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Being mentored by another teacher in a formal relationship				Mentoring another teacher in a formal relationship			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	34	27	32	7	19	30	39	11
School instructional level								
Elementary school	37	24	32	7	23	31	37	9
Middle school	32	28	33	6	18	30	42	10
High school	31	32	29	8	14	31	38	16
Combined	27	28	36	8	11	25	52	12
School enrollment size								
Less than 300	31	30	36	3	12	25	55	8
300 to 499	42	21	29	7	26	30	35	9
500 to 999	31	28	34	7	20	30	39	11
1,000 or more	36	27	28	9	15	33	38	15
Locale								
Central city	36	28	30	7	20	36	32	12
Urban fringe/large town	37	23	30	9	19	31	40	10
Rural/small town	29	29	35	6	20	22	47	11
Region								
Northeast	31	39	22	8	19	32	39	9
Midwest	33	24	38	4	21	30	41	8
South	35	26	33	6	17	31	38	14
West	35	23	32	11	22	29	40	9
Percent minority enrollment in school								
5 percent or less	30	31	36	3	17	27	43	13
6 to 20 percent	44	22	27	7	25	32	34	8
21 to 50 percent	28	31	32	8	19	28	40	13
More than 50 percent	37	23	31	9	16	34	39	11
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	38	27	30	5	23	25	41	11
15 to 32 percent	29	30	37	4	19	33	36	12
33 to 59 percent	30	28	33	9	17	31	42	11
60 percent or more	38	24	29	9	19	32	38	11
Main teaching assignment								
General elementary[2]	36	25	31	8	23	31	37	9
Math/science	30	29	38	4	15	27	46	13
Other targeted academic subject	35	28	28	9	16	31	40	14
Teaching experience								
3 or fewer years	45	26	25	5	19	35	41	6
4 to 9 years	31	26	36	8	18	29	42	11
10 to 19 years	32	28	35	5	18	35	33	14
20 or more years	18	27	39	15	21	27	42	10
Teacher race/ethnicity								
White, non-Hispanic	31	27	35	7	17	31	40	11
Black, non-Hispanic	50	23	21	6	31	24	35	10
Other	41	24	24	11	25	28	36	12
Sex								
Male	29	31	31	9	18	29	42	10
Female	37	25	32	7	20	31	39	11

Table B-12.—Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Networking with teachers outside your school				Individual or collaborative research on a topic of interest to you professionally			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	23	33	41	4	34	35	29	2
School instructional level								
Elementary school	25	32	40	3	35	35	29	1
Middle school	22	32	43	3	34	33	31	2
High school	19	35	42	5	34	37	27	2
Combined	20	38	37	5	29	47	22	2
School enrollment size								
Less than 300	26	27	46	2	30	43	26	1
300 to 499	24	32	39	5	40	34	25	1
500 to 999	23	33	41	3	32	34	32	1
1,000 or more	21	35	39	5	35	35	27	2
Locale								
Central city	25	32	38	4	36	34	28	2
Urban fringe/large town	20	35	41	4	35	35	29	1
Rural/small town	24	31	43	2	32	37	29	2
Region								
Northeast	22	36	40	2	37	36	26	1
Midwest	26	32	39	4	32	40	27	*
South	21	32	42	4	34	32	32	2
West	23	32	40	5	36	34	28	2
Percent minority enrollment in school								
5 percent or less	25	29	42	4	31	42	27	1
6 to 20 percent	20	34	43	3	36	33	31	1
21 to 50 percent	21	31	44	4	35	34	28	2
More than 50 percent	26	35	34	4	37	32	29	2
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	22	30	42	5	38	34	27	1
15 to 32 percent	21	36	40	3	32	39	27	1
33 to 59 percent	22	33	43	2	33	37	29	1
60 percent or more	25	33	38	4	35	31	32	2
Main teaching assignment								
General elementary[2]	25	32	39	4	35	35	29	1
Math/science	21	32	45	3	31	35	33	*
Other targeted academic subject	20	35	41	4	36	36	26	3
Teaching experience								
3 or fewer years	27	37	33	3	32	34	31	2
4 to 9 years	25	32	41	2	31	36	31	1
10 to 19 years	21	32	42	4	40	32	26	2
20 or more years	21	32	43	5	34	37	28	1
Teacher race/ethnicity								
White, non-Hispanic	22	33	42	3	33	36	29	2
Black, non-Hispanic	33	27	37	4	46	24	29	1
Other	29	34	31	7	37	35	27	*
Sex								
Male	22	31	42	5	31	36	32	2
Female	23	33	40	3	36	35	28	2

*Less than 0.5 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Percents are computed across each row for each type of professional development program, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-12a.—Standard errors of the percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	Common planning period for team teachers				Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	1.5	1.1	1.1	0.5	0.9	1.0	0.8	0.5
School instructional level								
Elementary school	2.2	1.6	1.5	0.7	1.6	1.5	1.1	0.7
Middle school	1.9	1.9	1.5	0.7	1.8	1.6	1.7	0.9
High school	2.3	2.3	2.2	1.4	1.6	1.7	1.8	1.0
Combined	10.4	6.0	7.4	3.3	3.2	3.1	4.4	2.1
School enrollment size								
Less than 300	4.2	4.7	3.9	1.5	3.3	3.6	3.2	2.1
300 to 499	2.9	2.6	2.5	0.9	2.7	2.6	1.9	0.7
500 to 999	2.1	1.7	1.6	0.7	1.5	1.6	1.4	0.7
1,000 or more	2.6	2.2	2.2	1.4	1.8	1.7	1.8	1.0
Locale								
Central city	2.1	1.6	1.7	0.9	1.8	1.7	1.5	0.9
Urban fringe/large town	2.4	1.9	1.8	0.7	1.7	1.7	1.6	0.7
Rural/small town	2.1	2.1	1.6	0.9	1.8	1.8	1.7	1.0
Region								
Northeast	3.0	3.2	2.5	1.0	2.4	2.5	2.3	0.9
Midwest	2.8	2.3	2.2	0.8	1.9	1.8	2.1	1.1
South	1.7	1.5	1.5	1.0	1.5	1.6	1.4	0.8
West	3.3	3.2	2.2	1.3	2.4	2.2	1.6	1.0
Percent minority enrollment in school								
5 percent or less	2.5	2.4	2.1	0.7	1.7	2.1	2.2	1.1
6 to 20 percent	3.2	2.4	2.0	1.0	2.1	1.9	1.6	0.7
21 to 50 percent	2.7	2.6	2.0	1.0	2.0	2.1	1.7	0.9
More than 50 percent	2.3	2.1	1.9	1.3	1.9	2.0	1.9	1.1
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	2.4	2.3	1.7	0.7	2.0	2.0	1.6	0.9
15 to 32 percent	3.1	2.3	2.3	0.8	1.9	1.8	1.7	0.7
33 to 59 percent	3.0	2.7	2.0	1.1	1.5	1.7	1.6	1.0
60 percent or more	2.2	2.3	2.0	1.1	2.1	2.0	1.7	1.0
Main teaching assignment								
General elementary[2]	2.3	1.9	1.5	0.7	1.6	1.4	1.3	0.6
Math/science	2.2	2.4	2.0	0.9	1.7	1.8	2.0	1.0
Other targeted academic subject	1.8	2.1	1.4	0.9	1.7	1.8	1.5	0.8
Teaching experience								
3 or fewer years	2.8	2.7	2.5	1.1	2.2	1.9	2.1	0.8
4 to 9 years	2.5	2.3	2.0	1.2	2.2	2.1	2.3	1.1
10 to 19 years	3.3	2.2	2.4	0.9	2.1	1.8	1.7	1.2
20 or more years	2.3	2.0	1.5	0.8	1.8	2.1	1.5	0.7
Teacher race/ethnicity								
White, non-Hispanic	1.6	1.2	1.2	0.5	1.0	1.0	0.8	0.6
Black, non-Hispanic	4.6	4.3	4.0	1.3	4.5	3.3	3.4	1.7
Other	4.5	3.9	4.1	2.6	5.0	4.0	3.8	1.7
Sex								
Male	2.2	2.3	2.3	1.2	1.5	1.9	1.8	1.0
Female	1.8	1.2	1.2	0.6	1.2	1.1	0.8	0.6

Table B-12a.—Standard errors of the percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Being mentored by another teacher in a formal relationship				Mentoring another teacher in a formal relationship			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	1.8	1.7	2.0	1.1	1.6	2.1	1.9	1.1
School instructional level								
Elementary school	2.7	2.4	3.0	1.8	2.6	3.3	3.1	1.8
Middle school	3.4	3.5	3.2	1.5	2.7	3.4	3.3	2.5
High school	2.5	3.2	3.0	1.7	2.1	2.7	3.5	1.9
Combined	6.6	8.8	8.5	4.4	4.9	6.1	5.5	4.5
School enrollment size								
Less than 300	6.5	6.5	7.6	2.8	4.5	6.3	7.6	3.8
300 to 499	4.4	4.1	4.4	2.4	4.3	5.5	4.7	2.8
500 to 999	2.7	2.5	2.8	1.5	1.9	2.9	2.7	1.6
1,000 or more	2.7	2.9	3.0	2.0	2.4	3.1	3.7	2.1
Locale								
Central city	3.0	2.3	2.8	1.7	2.9	3.7	3.2	2.0
Urban fringe/large town	3.6	2.5	3.8	2.4	2.2	3.5	3.4	1.5
Rural/small town	3.4	3.3	3.7	2.2	3.6	2.7	3.4	1.9
Region								
Northeast	4.3	5.4	5.1	2.5	3.6	5.0	4.7	2.9
Midwest	5.8	5.2	5.1	1.5	4.0	4.7	4.5	2.1
South	2.8	2.3	2.6	1.5	2.1	2.9	2.5	2.0
West	4.1	4.2	3.9	3.1	4.1	4.8	5.0	2.1
Percent minority enrollment in school								
5 percent or less	3.6	3.6	4.0	1.5	2.9	3.8	3.6	3.2
6 to 20 percent	3.7	3.9	3.9	2.3	3.3	3.9	4.3	2.0
21 to 50 percent	3.2	3.3	4.5	2.4	2.8	3.4	3.0	2.5
More than 50 percent	3.7	3.0	3.4	2.2	3.1	4.3	3.6	2.2
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	4.1	3.9	4.3	1.9	2.6	4.0	3.5	2.0
15 to 32 percent	4.1	4.1	3.9	1.2	3.4	3.8	4.0	1.9
33 to 59 percent	3.3	3.7	3.7	2.7	2.9	3.9	3.3	2.2
60 percent or more	3.7	3.0	3.3	2.3	3.3	3.7	3.7	2.2
Main teaching assignment								
General elementary[2]	2.5	2.5	2.8	1.8	2.6	3.3	3.0	1.8
Math/science	3.7	3.6	3.8	1.2	2.2	3.2	3.1	2.2
Other targeted academic subject	2.9	2.7	3.4	1.7	1.9	2.9	3.2	1.7
Teaching experience								
3 or fewer years	2.4	1.9	2.2	1.0	4.0	5.8	5.4	2.6
4 to 9 years	4.4	3.6	4.6	1.8	3.6	3.7	3.6	2.4
10 to 19 years	4.5	4.8	5.0	2.8	2.8	3.6	3.2	2.4
20 or more years	4.3	5.2	5.1	4.3	2.1	3.3	3.4	1.6
Teacher race/ethnicity								
White, non-Hispanic	1.7	1.8	2.2	1.1	1.7	2.3	2.1	1.2
Black, non-Hispanic	6.1	5.2	4.3	2.9	5.1	5.5	6.0	3.9
Other	6.0	5.2	6.2	5.5	6.9	6.9	7.5	3.8
Sex								
Male	2.7	2.6	3.2	1.5	3.1	3.4	3.5	2.1
Female	2.2	1.9	2.3	1.5	2.0	2.6	2.0	1.3

Table B-12a.—Standard errors of the percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their classroom teaching, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Networking with teachers outside your school				Individual or collaborative research on a topic of interest to you professionally			
	Improved my teaching				Improved my teaching			
	A lot	Moderately	Somewhat	Not at all	A lot	Moderately	Somewhat	Not at all
All targeted public school teachers[1]	1.2	1.0	1.2	0.4	1.2	1.1	1.2	0.3
School instructional level								
Elementary school	1.7	1.7	2.0	0.7	1.9	1.7	2.0	0.4
Middle school	1.7	1.7	1.9	0.7	2.3	2.2	2.5	0.6
High school	1.6	2.0	2.5	0.8	2.2	2.2	2.1	0.5
Combined	4.3	4.4	4.5	2.3	6.0	5.2	4.0	1.3
School enrollment size								
Less than 300	3.7	4.1	4.9	1.0	3.7	4.2	3.3	1.1
300 to 499	2.4	2.3	2.8	1.2	2.9	2.4	3.2	0.6
500 to 999	1.7	1.7	1.9	0.6	1.8	1.8	1.7	0.4
1,000 or more	1.6	1.9	2.1	0.8	2.3	2.3	2.3	0.6
Locale								
Central city	1.9	2.2	2.1	0.9	2.3	1.9	2.2	0.5
Urban fringe/large town	1.6	1.8	2.0	0.8	1.7	1.8	2.0	0.3
Rural/small town	2.2	2.1	2.3	0.6	2.2	2.3	2.2	0.6
Region								
Northeast	1.9	2.4	2.5	0.6	2.4	2.7	2.1	0.3
Midwest	2.7	2.4	2.6	0.9	2.2	2.8	2.4	0.3
South	1.9	2.0	2.1	0.8	1.9	1.9	2.0	0.6
West	2.3	2.6	3.0	1.1	2.9	2.5	2.9	0.7
Percent minority enrollment in school								
5 percent or less	2.2	2.1	2.6	0.9	2.2	2.5	2.3	0.3
6 to 20 percent	2.1	2.2	2.5	0.8	2.8	2.4	2.3	0.4
21 to 50 percent	2.1	2.1	2.2	0.9	2.5	2.6	2.2	0.8
More than 50 percent	2.3	2.2	2.4	0.9	2.7	2.6	2.6	0.7
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	2.0	2.2	2.2	1.2	2.2	2.4	2.2	0.4
15 to 32 percent	1.9	2.1	2.4	0.9	2.5	2.6	2.3	0.4
33 to 59 percent	2.5	2.1	2.2	0.8	2.3	2.3	2.3	0.7
60 percent or more	2.4	2.1	2.2	0.9	2.5	2.1	2.5	0.7
Main teaching assignment								
General elementary[2]	1.7	1.8	2.1	0.7	2.1	1.7	2.0	0.4
Math/science	2.0	1.8	2.1	0.8	2.4	2.7	2.7	0.3
Other targeted academic subject	1.5	1.5	2.1	0.8	1.9	1.8	1.8	0.5
Teaching experience								
3 or fewer years	2.3	2.4	2.5	0.9	2.7	2.5	2.5	0.7
4 to 9 years	2.5	2.3	2.6	0.6	2.3	2.5	2.2	0.6
10 to 19 years	2.4	2.3	2.6	1.0	2.5	2.7	2.5	0.7
20 or more years	1.7	1.9	2.4	1.0	2.3	2.2	1.8	0.5
Teacher race/ethnicity								
White, non-Hispanic	1.1	1.1	1.2	0.5	1.2	1.2	1.3	0.3
Black, non-Hispanic	5.2	3.9	5.2	1.6	5.6	4.1	4.3	0.9
Other	3.7	4.3	4.2	2.6	4.6	5.1	4.6	0.4
Sex								
Male	2.1	2.1	2.4	1.1	2.1	2.1	2.1	0.5
Female	1.4	1.2	1.5	0.5	1.4	1.3	1.4	0.3

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[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998

Table B-13.—Percent of full-time public school teachers who participated in a formal induction program when they first began teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	Participated in induction program
All targeted public school teachers[1]	34
School instructional level	
Elementary school	33
Middle school	36
High school	34
Combined	32
School enrollment size	
Less than 300	27
300 to 499	31
500 to 999	35
1,000 or more	39
Locale	
Central city	37
Urban fringe/large town	37
Rural/small town	27
Region	
Northeast	29
Midwest	26
South	38
West	39
Percent minority enrollment in school	
5 percent or less	25
6 to 20 percent	34
21 to 50 percent	37
More than 50 percent	39
Percent of students in school eligible for free or reduced-price school lunch	
Less than 15 percent	35
15 to 32 percent	32
33 to 59 percent	32
60 percent or more	37
Main teaching assignment	
General elementary[2]	33
Math/science	35
Other targeted academic subject	35
Teaching experience	
3 or fewer years	65
4 to 9 years	55
10 to 19 years	28
20 or more years	14
Teacher race/ethnicity	
White, non-Hispanic	32
Black, non-Hispanic	48
Other	45
Sex	
Male	39
Female	32

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-13a.—Standard errors of the percent of full-time public school teachers who participated in a formal induction program when they first began teaching, by selected school and teacher characteristics: 1998

School and teacher characteristic	Participated in induction program
All targeted public school teachers[1]	0.8
School instructional level	
Elementary school	1.4
Middle school	1.8
High school	1.5
Combined	3.5
School enrollment size	
Less than 300	2.7
300 to 499	2.0
500 to 999	1.5
1,000 or more	2.0
Locale	
Central city	1.6
Urban fringe/large town	1.6
Rural/small town	1.4
Region	
Northeast	2.1
Midwest	1.4
South	1.3
West	2.5
Percent minority enrollment in school	
5 percent or less	1.2
6 to 20 percent	2.0
21 to 50 percent	2.0
More than 50 percent	1.9
Percent of students in school eligible for free or reduced-price school lunch	
Less than 15 percent	1.8
15 to 32 percent	1.9
33 to 59 percent	1.8
60 percent or more	1.6
Main teaching assignment	
General elementary[2]	1.3
Math/science	1.6
Other targeted academic subject	1.3
Teaching experience	
3 or fewer years	1.9
4 to 9 years	2.1
10 to 19 years	1.7
20 or more years	1.1
Teacher race/ethnicity	
White, non-Hispanic	0.9
Black, non-Hispanic	3.4
Other	3.9
Sex	
Male	1.6
Female	0.9

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-14.—Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1998

School and teacher characteristic	Teaching assignment			
	General elementary classroom[1]	Departmentalized settings		
		Total[2]	Main	Secondary
All targeted public school teachers[3]	23	24	24	24
School instructional level				
Elementary school	23	#	#	#
Middle school	#	25	25	25
High school	#	24	24	23
Combined	#	22	22	21
School enrollment size				
Less than 300	20	19	19	18
300 to 499	22	22	22	22
500 to 999	23	24	24	24
1,000 or more	26	26	26	27
Locale				
Central city	23	25	25	24
Urban fringe/large town	23	25	25	25
Rural/small town	21	22	22	22
Region				
Northeast	23	23	23	23
Midwest	22	23	23	23
South	22	23	23	23
West	23	28	28	26
Percent minority enrollment in school				
5 percent or less	22	23	23	23
6 to 20 percent	23	24	24	26
21 to 50 percent	23	24	24	23
More than 50 percent	23	25	25	23
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent	23	24	24	24
15 to 32 percent	22	24	24	25
33 to 59 percent	22	24	24	23
60 percent or more	23	24	24	22
Teaching experience				
3 or fewer years	22	24	24	23
4 to 9 years	23	24	24	25
10 to 19 years	23	24	24	23
20 or more years	23	24	24	23
Teacher race/ethnicity				
White, non-Hispanic	23	24	24	24
Black, non-Hispanic	23	25	25	*
Other	23	24	25	22
Sex				
Male	24	25	24	25
Female	22	23	24	23

#Data for general elementary classrooms are reported for elementary schools only; data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

*Too few cases for a reliable estimate.

[1] The category labeled general elementary classrooms includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

[2] Total includes class size information for main, secondary, and other teacher assignments. Data for other teaching assignments are not shown separately because few teachers in this study reported other teaching assignments.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

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Table B-14a.—Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1998

School and teacher characteristic	Teaching assignment			
	General elementary classrooms[1]	Departmentalized settings		
		Total[2]	Main	Secondary
All targeted public school teachers[3]	0.2	0.1	0.1	0.4
School instructional level				
Elementary school	0.1	#	#	#
Middle school	#	0.2	0.2	0.5
High school	#	0.2	0.2	1.1
Combined	#	0.6	0.6	1.9
School enrollment size				
Less than 300	0.5	0.5	0.5	1.0
300 to 499	0.2	0.5	0.5	1.0
500 to 999	0.2	0.2	0.2	0.5
1,000 or more	0.9	0.2	0.2	0.9
Locale				
Central city	0.2	0.3	0.3	0.9
Urban fringe/large town	0.3	0.2	0.2	0.9
Rural/small town	0.3	0.2	0.2	0.6
Region				
Northeast	0.4	0.3	0.3	1.2
Midwest	0.3	0.3	0.3	0.6
South	0.2	0.2	0.2	0.7
West	0.3	0.4	0.4	1.2
Percent minority enrollment in school				
5 percent or less	0.4	0.2	0.2	0.7
6 to 20 percent	0.3	0.2	0.2	0.7
21 to 50 percent	0.3	0.3	0.3	1.0
More than 50 percent	0.3	0.3	0.3	0.9
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent	0.3	0.3	0.3	0.8
15 to 32 percent	0.4	0.3	0.3	1.0
33 to 59 percent	0.2	0.3	0.3	0.7
60 percent or more	0.3	0.4	0.4	1.0
Teaching experience				
3 or fewer years	0.4	0.3	0.3	0.9
4 to 9 years	0.3	0.3	0.3	0.9
10 to 19 years	0.3	0.3	0.3	1.0
20 or more years	0.2	0.2	0.2	0.7
Teacher race/ethnicity				
White, non-Hispanic	0.2	0.1	0.1	0.5
Black, non-Hispanic	0.5	0.6	0.6	*
Other	0.6	0.7	0.7	1.9
Sex				
Male	0.4	0.2	0.2	1.0
Female	0.2	0.2	0.2	0.5

#Data for general elementary classrooms are reported for elementary schools only; data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

*Too few cases for a reliable estimate.

[1] The category labeled general elementary classrooms includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

[2] Total includes class size information for main, secondary, and other teacher assignments. Data for other teaching assignments are not shown separately because few teachers in this study reported other teaching assignments.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-15.—Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1998

School and teacher characteristic	Parents support me in my efforts to educate their children				The school administration supports me in my work			
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
All targeted public school teachers[1]	32	54	11	3	55	36	7	2
School instructional level								
Elementary school	36	52	9	3	56	36	6	2
Middle school	30	56	11	2	59	33	7	1
High school	24	58	14	4	49	39	9	3
Combined	25	59	13	2	48	42	6	4
School enrollment size								
Less than 300	36	54	9	1	57	37	5	1
300 to 499	34	56	8	2	54	38	6	3
500 to 999	32	53	11	3	57	35	7	2
1,000 or more	26	56	13	4	50	37	9	3
Locale								
Central city	31	50	14	6	53	36	8	4
Urban fringe/large town	33	55	9	2	55	36	8	2
Rural/small town	30	58	10	2	56	37	6	1
Region								
Northeast	34	55	8	3	46	43	9	2
Midwest	34	54	10	1	52	39	7	2
South	28	56	12	5	60	32	6	2
West	34	52	12	2	55	34	8	3
Percent minority enrollment in school								
5 percent or less	33	58	8	1	50	42	7	1
6 to 20 percent	39	53	7	1	57	33	8	2
21 to 50 percent	31	55	11	3	61	32	6	2
More than 50 percent	24	51	18	8	51	37	8	4
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	41	53	5	1	56	34	8	2
15 to 32 percent	34	56	9	1	53	38	8	1
33 to 59 percent	29	57	11	3	55	36	6	3
60 percent or more	23	53	17	7	54	36	7	3
Main teaching assignment								
General elementary[2]	37	51	9	3	56	35	7	2
Math/science	28	57	12	4	53	39	6	2
Other targeted academic subject	25	58	14	3	54	35	8	3
Teaching experience								
3 or fewer years	26	55	14	5	60	32	7	2
4 to 9 years	32	55	11	2	56	34	7	2
10 to 19 years	32	54	10	3	53	38	6	3
20 or more years	33	54	10	3	52	38	8	2
Teacher race/ethnicity								
White, non-Hispanic	31	56	11	3	54	36	7	2
Black, non-Hispanic	36	47	13	4	58	35	4	2
Other	42	43	12	3	59	33	7	1
Sex								
Male	31	52	13	4	51	38	8	3
Female	32	55	10	3	56	35	7	2

Table B-15.—Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Other teachers share ideas that are helpful to me in my teaching				Goals and priorities for the school are clear			
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
All targeted public school teachers[1]	63	33	4	1	47	38	11	4
School instructional level								
Elementary school	69	28	2	1	52	36	9	3
Middle school	60	36	3	1	48	39	11	3
High school	53	40	7	1	37	42	16	5
Combined	49	43	5	3	32	41	17	9
School enrollment size								
Less than 300	61	35	2	2	45	40	9	6
300 to 499	65	31	4	1	48	37	12	3
500 to 999	65	32	3	1	49	37	10	4
1,000 or more	58	36	6	1	42	40	14	4
Locale								
Central city	64	31	4	1	48	37	10	5
Urban fringe/large town	64	32	4	1	47	37	12	4
Rural/small town	60	36	3	1	46	40	11	3
Region								
Northeast	61	36	2	1	42	40	14	5
Midwest	61	34	4	1	39	43	13	4
South	62	33	4	1	56	34	7	3
West	68	27	5	1	44	38	13	5
Percent minority enrollment in school								
5 percent or less	59	37	3	1	40	44	12	4
6 to 20 percent	66	29	4	1	48	37	12	3
21 to 50 percent	64	31	4	1	54	36	8	3
More than 50 percent	61	34	4	1	46	36	12	6
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	63	33	3	1	44	39	12	4
15 to 32 percent	62	34	3	1	47	39	11	4
33 to 59 percent	62	32	5	1	48	39	11	2
60 percent or more	63	33	3	1	50	35	11	5
Main teaching assignment								
General elementary[2]	70	27	2	1	52	36	9	3
Math/science	55	40	4	1	41	41	14	4
Other targeted academic subject	56	38	5	1	43	39	13	5
Teaching experience								
3 or fewer years	67	28	4	1	46	39	10	5
4 to 9 years	66	29	5	1	46	39	11	4
10 to 19 years	62	33	4	1	48	37	11	4
20 or more years	60	36	3	1	48	38	11	3
Teacher race/ethnicity								
White, non-Hispanic	62	33	4	1	45	39	11	4
Black, non-Hispanic	63	34	2	1	61	29	7	2
Other	67	30	3	1	52	32	11	4
Sex								
Male	52	41	5	2	37	43	15	5
Female	66	30	3	1	50	36	10	4

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Percents are computed across each row for each statement, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-15a.—Standard errors of the percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1998

School and teacher characteristic	Parents support me in my efforts to educate their children				The school administration supports me in my work			
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
All targeted public school teachers[1]	1.1	1.1	0.6	0.3	1.1	1.0	0.5	0.3
School instructional level								
Elementary school	1.7	1.7	0.8	0.5	1.9	1.7	0.8	0.4
Middle school	1.6	1.7	1.1	0.5	1.6	1.7	0.9	0.4
High school	1.4	1.7	1.0	0.7	1.7	1.6	0.9	0.4
Combined	3.3	4.1	2.3	0.9	3.8	3.2	2.9	1.8
School enrollment size								
Less than 300	2.8	3.2	1.7	0.7	3.2	2.5	2.0	0.6
300 to 499	2.0	1.9	1.2	0.6	2.8	2.6	1.2	0.8
500 to 999	1.6	1.6	1.0	0.6	1.7	1.4	0.8	0.3
1,000 or more	1.2	1.7	1.1	0.7	1.7	1.7	0.9	0.5
Locale								
Central city	1.8	1.7	1.2	0.8	2.0	1.9	0.9	0.6
Urban fringe/large town	1.4	1.7	0.8	0.4	1.6	1.6	0.8	0.3
Rural/small town	1.5	1.7	0.9	0.4	1.8	1.6	0.9	0.4
Region								
Northeast	2.4	2.4	1.0	0.8	2.6	2.1	1.4	0.5
Midwest	1.9	2.1	1.3	0.5	2.1	1.8	1.0	0.4
South	1.6	1.6	0.9	0.7	1.5	1.5	0.7	0.5
West	2.4	2.6	1.5	0.7	2.4	1.9	1.3	0.9
Percent minority enrollment in school								
5 percent or less	2.0	1.8	0.9	0.3	2.0	1.8	1.2	0.4
6 to 20 percent	2.0	1.8	1.1	0.4	2.0	1.7	1.1	0.5
21 to 50 percent	1.9	2.2	1.3	0.7	2.0	1.9	0.9	0.5
More than 50 percent	1.7	1.9	1.7	1.0	1.8	1.5	1.0	0.7
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.9	2.0	0.5	0.4	2.6	2.2	1.2	0.5
15 to 32 percent	2.0	1.8	1.0	0.4	1.7	1.9	1.1	0.4
33 to 59 percent	2.2	2.1	1.2	0.8	2.2	1.9	1.2	0.6
60 percent or more	1.8	2.2	1.7	0.9	1.9	1.9	0.8	0.7
Main teaching assignment								
General elementary[2]	1.8	1.8	0.8	0.5	1.9	1.6	0.9	0.4
Math/science	1.5	1.6	1.2	0.7	1.5	1.6	0.7	0.5
Other targeted academic subject	1.2	1.7	1.1	0.6	1.5	1.5	0.7	0.5
Teaching experience								
3 or fewer years	1.7	1.8	1.3	0.9	2.6	2.1	1.5	0.4
4 to 9 years	2.1	2.1	1.2	0.7	2.0	1.7	1.1	0.6
10 to 19 years	2.0	2.1	1.3	0.6	2.1	1.9	1.0	0.6
20 or more years	1.6	1.7	1.0	0.6	1.4	1.6	0.8	0.6
Teacher race/ethnicity								
White, non-Hispanic	1.2	1.2	0.6	0.4	1.2	1.1	0.5	0.3
Black, non-Hispanic	3.8	3.8	2.3	1.5	4.0	3.7	1.3	1.2
Other	3.5	3.7	2.5	1.0	3.6	3.5	1.7	0.7
Sex								
Male	1.9	2.0	1.3	0.6	1.9	1.7	0.9	0.6
Female	1.2	1.2	0.7	0.4	1.4	1.3	0.6	0.3

Table B-15a.—Standard errors of the percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Other teachers share ideas that are helpful to me in my teaching				Goals and priorities for the school are clear			
	Strongly agree	Some-what agree	Some-what disagree	Strongly disagree	Strongly agree	Some-what agree	Some-what disagree	Strongly disagree
All targeted public school teachers[1]	0.9	0.9	0.3	0.1	1.1	1.0	0.6	0.4
School instructional level								
Elementary school	1.5	1.5	0.4	0.2	1.7	1.7	1.0	0.7
Middle school	1.8	1.7	0.6	0.3	1.5	1.5	1.1	0.6
High school	1.5	1.4	0.7	0.3	1.6	1.5	1.3	0.7
Combined	3.8	3.1	1.5	1.2	3.6	3.6	2.8	2.6
School enrollment size								
Less than 300	2.9	2.9	0.8	0.7	3.3	2.7	1.5	1.5
300 to 499	2.2	2.3	0.7	0.3	2.7	2.2	1.6	0.8
500 to 999	1.2	1.3	0.4	0.2	1.4	1.4	0.8	0.6
1,000 or more	1.5	1.5	0.7	0.3	1.7	1.7	1.1	0.6
Locale								
Central city	1.8	1.6	0.6	0.3	2.0	2.0	1.0	0.7
Urban fringe/large town	1.4	1.4	0.4	0.3	1.5	1.4	1.1	0.6
Rural/small town	1.9	1.9	0.4	0.2	1.7	1.6	1.2	0.6
Region								
Northeast	2.0	1.9	0.6	0.5	2.9	2.7	1.6	1.1
Midwest	2.2	2.1	0.6	0.3	2.2	2.1	1.5	1.0
South	1.5	1.4	0.6	0.3	1.2	1.4	0.8	0.5
West	2.4	2.1	0.7	0.3	3.0	2.3	1.6	0.9
Percent minority enrollment in school								
5 percent or less	2.1	2.2	0.5	0.4	2.0	1.9	1.3	0.9
6 to 20 percent	1.7	1.7	0.6	0.3	2.1	1.7	1.3	0.8
21 to 50 percent	1.7	1.8	0.6	0.3	1.9	1.8	0.9	0.6
More than 50 percent	1.8	1.6	0.7	0.3	2.2	1.8	1.1	0.8
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	2.0	1.9	0.5	0.3	2.2	1.8	1.3	0.8
15 to 32 percent	1.6	1.7	0.5	0.4	1.6	1.9	1.1	0.9
33 to 59 percent	1.8	1.8	0.6	0.4	2.2	2.1	1.2	0.6
60 percent or more	2.0	1.9	0.6	0.2	2.2	1.9	1.1	0.7
Main teaching assignment								
General elementary[2]	1.4	1.5	0.4	0.2	1.7	1.6	0.9	0.6
Math/science	1.6	1.5	0.7	0.3	1.9	2.0	0.9	0.6
Other targeted academic subject	1.3	1.3	0.5	0.3	1.6	1.6	1.1	0.6
Teaching experience								
3 or fewer years	1.6	1.5	0.7	0.4	2.8	2.0	1.2	1.0
4 to 9 years	1.6	1.7	0.8	0.4	2.0	2.1	1.4	0.9
10 to 19 years	1.9	1.9	0.7	0.3	2.0	2.0	1.2	0.7
20 or more years	1.4	1.5	0.4	0.3	1.6	1.6	1.1	0.7
Teacher race/ethnicity								
White, non-Hispanic	1.0	1.0	0.3	0.2	1.1	1.1	0.7	0.5
Black, non-Hispanic	3.7	3.7	0.7	0.5	4.2	3.9	1.7	0.8
Other	3.5	3.4	1.1	0.5	4.0	3.3	2.1	1.5
Sex								
Male	1.4	1.5	0.6	0.4	1.5	1.5	1.3	0.7
Female	1.1	1.1	0.4	0.2	1.2	1.1	0.7	0.5

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[2] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-16.—Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998

School and teacher characteristic	Implement new methods of teaching (e.g., cooperative learning)				Implement state or district curriculum and performance standards			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
All targeted public school teachers[2]	41	41	16	2	36	41	20	3
School instructional level								
Elementary school	42	42	15	1	35	42	21	3
Middle school	45	40	14	2	41	41	16	2
High school	38	40	19	3	38	37	20	5
Combined	26	47	21	6	27	45	25	3
School enrollment size								
Less than 300	36	41	21	2	32	39	26	3
300 to 499	39	42	17	2	31	47	20	2
500 to 999	42	41	15	2	38	40	19	3
1,000 or more	42	41	15	2	40	38	19	4
Locale								
Central city	44	41	14	1	38	40	18	4
Urban fringe/large town	43	40	15	2	38	41	19	2
Rural/small town	35	43	20	2	32	42	22	3
Region								
Northeast	44	38	15	2	32	42	22	5
Midwest	39	41	18	2	30	41	25	4
South	40	43	16	1	43	40	15	2
West	43	42	13	1	35	41	21	3
Percent minority enrollment in school								
5 percent or less	35	43	19	3	30	42	24	4
6 to 20 percent	44	37	16	2	38	39	20	3
21 to 50 percent	41	44	14	1	40	43	15	2
More than 50 percent	43	40	15	1	37	39	21	3
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	45	38	14	2	38	39	19	4
15 to 32 percent	40	41	16	3	37	41	19	4
33 to 59 percent	39	43	17	1	35	43	19	2
60 percent or more	39	42	17	1	35	40	22	3
Main teaching assignment								
General elementary[3]	42	42	15	1	35	42	21	3
Math/science	34	43	21	2	35	42	20	3
Other targeted academic subject	44	39	15	2	40	39	17	4
Teaching experience								
3 or fewer years	37	45	16	1	28	47	22	3
4 to 9 years	44	42	13	1	36	41	20	3
10 to 19 years	41	41	15	2	37	41	19	3
20 or more years	40	39	18	3	39	39	19	3
Teacher race/ethnicity								
White, non-Hispanic	40	41	17	2	35	41	20	3
Black, non-Hispanic	46	42	11	1	43	40	16	2
Other	43	42	13	2	44	36	17	3
Sex								
Male	34	40	22	3	34	41	21	4
Female	43	41	14	1	37	41	19	3

Table B-16.—Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Integrate educational technology into the grade or subject taught				Use student performance assessment techniques			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
All targeted public school teachers[2]	20	37	34	9	28	41	26	4
School instructional level								
Elementary school	18	37	36	9	28	43	25	3
Middle school	23	38	31	8	30	42	23	5
High school	24	36	31	10	29	36	29	6
Combined	23	38	31	8	20	44	30	5
School enrollment size								
Less than 300	20	34	35	11	27	38	29	6
300 to 499	18	37	37	8	26	44	27	3
500 to 999	19	39	34	9	27	44	25	4
1,000 or more	26	35	29	9	34	35	25	6
Locale								
Central city	22	37	32	9	32	41	23	4
Urban fringe/large town	20	39	32	9	29	42	25	4
Rural/small town	18	36	38	8	24	41	30	5
Region								
Northeast	22	36	35	8	29	37	29	5
Midwest	17	38	35	10	23	43	29	5
South	22	38	31	8	33	41	22	4
West	20	35	35	9	26	43	27	4
Percent minority enrollment in school								
5 percent or less	17	36	37	9	24	42	30	4
6 to 20 percent	20	38	34	9	28	41	26	6
21 to 50 percent	23	39	31	8	29	42	25	4
More than 50 percent	22	36	33	9	33	40	22	4
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	23	38	31	8	28	39	27	5
15 to 32 percent	20	36	36	8	26	42	27	4
33 to 59 percent	18	38	34	10	28	44	25	4
60 percent or more	20	37	33	9	32	40	24	3
Main teaching assignment								
General elementary[3]	18	37	36	9	29	44	25	3
Math/science	25	38	30	8	24	41	30	6
Other targeted academic subject	21	37	33	9	31	38	25	5
Teaching experience								
3 or fewer years	24	38	32	7	23	44	29	4
4 to 9 years	23	41	30	7	27	44	26	3
10 to 19 years	19	36	35	10	29	40	26	5
20 or more years	19	36	36	10	30	40	25	5
Teacher race/ethnicity								
White, non-Hispanic	19	37	34	9	27	42	27	4
Black, non-Hispanic	30	38	27	4	46	38	16	*
Other	23	33	31	13	33	40	20	7
Sex								
Male	24	37	30	8	23	40	31	6
Female	19	37	35	9	30	42	24	4

Table B-16.—Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Maintain order and discipline in the classroom				Address the needs of students with limited English proficiency or from diverse cultural backgrounds[1]			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
All targeted public school teachers[2]	71	24	4	1	20	33	30	17
School instructional level								
Elementary school	71	24	3	1	21	35	28	16
Middle school	73	22	4	1	18	36	29	17
High school	69	24	6	1	19	28	35	18
Combined	62	29	7	2	21	35	26	18
School enrollment size								
Less than 300	66	27	6	1	13	24	43	20
300 to 499	68	27	5	1	18	28	32	21
500 to 999	73	23	3	1	19	37	27	17
1,000 or more	72	22	4	1	24	33	30	13
Locale								
Central city	71	23	5	1	24	36	29	11
Urban fringe/large town	73	22	4	1	18	34	30	18
Rural/small town	67	27	4	1	15	28	32	25
Region								
Northeast	73	22	5	*	18	35	28	19
Midwest	70	23	5	2	15	27	32	26
South	69	27	4	1	19	32	32	17
West	73	23	3	*	26	39	27	9
Percent minority enrollment in school								
5 percent or less	69	26	4	2	10	25	34	31
6 to 20 percent	74	22	3	*	15	33	33	19
21 to 50 percent	73	22	4	1	20	34	31	15
More than 50 percent	68	26	6	1	27	37	25	11
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	74	22	3	1	17	32	32	20
15 to 32 percent	72	23	4	1	17	31	34	18
33 to 59 percent	69	26	4	1	16	34	32	17
60 percent or more	68	26	5	1	27	35	24	13
Main teaching assignment								
General elementary[3]	71	25	4	1	22	35	28	16
Math/science	68	26	5	1	13	28	37	21
Other targeted academic subject	73	22	5	1	22	35	28	15
Teaching experience								
3 or fewer years	54	36	9	1	18	35	34	13
4 to 9 years	70	25	3	1	21	32	30	17
10 to 19 years	72	24	3	1	22	37	28	13
20 or more years	76	20	3	1	18	31	30	21
Teacher race/ethnicity								
White, non-Hispanic	71	24	4	1	17	33	31	19
Black, non-Hispanic	69	25	5	1	26	33	35	7
Other	72	21	6	*	43	31	19	7
Sex								
Male	68	24	5	2	17	29	36	18
Female	72	24	4	1	21	35	28	16

Table B-16.—Percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Address the needs of students with disabilities[1]			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
All targeted public school teachers[2]	21	41	30	7
School instructional level				
Elementary school	22	42	30	7
Middle school	23	44	27	6
High school	19	36	35	10
Combined	17	45	31	7
School enrollment size				
Less than 300	25	42	30	4
300 to 499	21	41	31	7
500 to 999	21	43	29	7
1,000 or more	21	37	32	10
Locale				
Central city	21	37	33	9
Urban fringe/large town	21	42	30	8
Rural/small town	22	44	29	5
Region				
Northeast	22	38	32	9
Midwest	19	44	30	6
South	23	40	31	7
West	19	43	30	8
Percent minority enrollment in school				
5 percent or less	20	45	29	5
6 to 20 percent	23	43	27	7
21 to 50 percent	23	38	32	7
More than 50 percent	18	37	34	11
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent	22	43	28	6
15 to 32 percent	20	42	31	7
33 to 59 percent	22	41	31	6
60 percent or more	20	37	33	10
Main teaching assignment				
General elementary[3]	21	43	30	6
Math/science	19	40	31	10
Other targeted academic subject	22	40	31	8
Teaching experience				
3 or fewer years	15	41	34	9
4 to 9 years	21	39	33	8
10 to 19 years	25	44	25	6
20 or more years	21	40	32	7
Teacher race/ethnicity				
White, non-Hispanic	21	41	31	7
Black, non-Hispanic	24	37	31	8
Other	21	40	30	9
Sex				
Male	17	37	37	9
Female	22	43	28	7

*Less than 0.5 percent.

[1] Percents are based on teachers who teach students with these characteristics.

[2] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[3] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

NOTE: Percents are computed across each row for each type of professional development program, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table B-16a.—Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998

School and teacher characteristic	Implement new methods of teaching (e.g., cooperative learning)				Implement state or district curriculum and performance standards			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
All targeted public school teachers[2]	0.8	0.8	0.7	0.3	0.9	1.1	1.0	0.3
School instructional level								
Elementary school	1.3	1.2	1.1	0.4	1.4	1.7	1.4	0.6
Middle school	1.4	1.7	1.1	0.4	1.8	1.8	1.1	0.5
High school	1.5	1.7	1.4	0.5	1.2	1.5	1.4	0.7
Combined	2.7	3.8	3.0	1.9	3.4	4.3	3.3	1.0
School enrollment size								
Less than 300	2.1	2.6	2.2	1.1	2.6	2.8	3.2	1.1
300 to 499	1.8	2.0	1.7	0.5	2.0	2.4	2.0	0.6
500 to 999	1.6	1.5	1.0	0.3	1.5	1.8	1.2	0.5
1,000 or more	1.5	1.7	1.3	0.5	1.5	1.4	1.4	0.6
Locale								
Central city	1.6	1.6	1.2	0.3	1.5	2.0	1.3	0.6
Urban fringe/large town	1.7	1.7	1.1	0.4	1.6	1.6	1.4	0.4
Rural/small town	1.6	1.7	1.2	0.5	1.7	1.5	1.6	0.6
Region								
Northeast	2.3	2.1	1.8	0.8	2.1	1.9	1.8	0.9
Midwest	1.5	1.9	1.6	0.5	1.7	2.3	2.0	0.9
South	1.6	1.6	1.2	0.4	1.4	1.7	1.5	0.4
West	2.3	2.6	1.8	0.4	1.7	1.9	1.7	0.6
Percent minority enrollment in school								
5 percent or less	2.0	2.0	1.6	0.6	1.7	2.1	2.1	0.7
6 to 20 percent	2.1	1.7	1.4	0.5	1.9	2.0	1.5	0.6
21 to 50 percent	1.8	1.8	1.3	0.3	1.9	2.1	1.5	0.6
More than 50 percent	2.2	2.1	1.4	0.3	2.0	2.1	2.2	0.6
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	2.2	1.7	1.3	0.8	1.9	1.6	1.7	0.8
15 to 32 percent	1.9	2.3	1.4	0.6	1.6	1.8	1.5	0.6
33 to 59 percent	1.8	2.1	1.4	0.4	1.8	2.5	2.0	0.5
60 percent or more	2.0	1.7	1.4	0.4	1.8	2.2	2.1	0.7
Main teaching assignment								
General elementary[3]	1.3	1.4	1.1	0.4	1.3	1.7	1.5	0.6
Math/science	1.6	1.6	1.2	0.5	1.5	1.5	1.5	0.6
Other targeted academic subject	1.4	1.4	1.0	0.4	1.2	1.6	1.1	0.6
Teaching experience								
3 or fewer years	2.0	1.9	1.3	0.4	1.9	2.2	2.1	0.7
4 to 9 years	1.8	2.0	1.2	0.3	1.7	1.9	2.2	0.7
10 to 19 years	1.9	1.9	1.4	0.5	2.0	2.0	1.8	0.6
20 or more years	1.8	1.8	1.3	0.5	1.3	1.7	1.5	0.6
Teacher race/ethnicity								
White, non-Hispanic	1.0	1.0	0.7	0.3	0.9	1.0	1.1	0.4
Black, non-Hispanic	4.4	3.8	2.6	0.8	3.5	3.6	2.9	1.1
Other	3.7	3.4	2.5	0.9	3.5	3.5	2.5	1.2
Sex								
Male	1.7	1.5	1.3	0.6	1.5	1.7	1.6	0.6
Female	1.0	1.1	0.8	0.3	1.1	1.3	1.1	0.4

Table B-16a.—Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Integrate educational technology into the grade or subject taught: Very well prepared	Integrate educational technology into the grade or subject taught: Moderately well prepared	Integrate educational technology into the grade or subject taught: Somewhat well prepared	Integrate educational technology into the grade or subject taught: Not at all prepared	Use student performance assessment techniques: Very well prepared	Use student performance assessment techniques: Moderately well prepared	Use student performance assessment techniques: Somewhat well prepared	Use student performance assessment techniques: Not at all prepared
All targeted public school teachers[2]	0.8	1.0	1.0	0.5	1.0	0.9	0.8	0.4
School instructional level								
Elementary school	1.1	1.6	1.5	0.9	1.6	1.6	1.4	0.7
Middle school	1.5	1.8	1.6	1.1	1.7	1.8	1.8	0.7
High school	1.2	1.1	1.3	0.7	1.6	1.6	1.2	0.7
Combined	3.2	3.9	3.1	1.9	3.0	4.4	3.0	1.6
School enrollment size								
Less than 300	2.4	3.3	3.5	2.6	2.4	2.9	3.0	1.7
300 to 499	1.9	2.2	2.1	1.0	2.1	2.1	2.0	0.6
500 to 999	1.2	1.5	1.3	0.8	1.5	1.6	1.3	0.6
1,000 or more	1.5	1.6	1.7	0.9	1.9	1.8	1.1	0.8
Locale								
Central city	1.6	2.0	1.5	1.0	1.8	1.8	1.4	0.7
Urban fringe/large town	1.4	1.4	1.8	0.9	1.5	1.5	1.4	0.8
Rural/small town	1.2	1.6	1.6	1.2	1.3	1.7	1.7	0.7
Region								
Northeast	1.8	2.0	1.7	1.1	2.1	2.2	1.5	1.1
Midwest	1.6	1.9	2.2	1.3	1.3	1.7	1.6	0.9
South	1.3	1.7	1.5	1.1	1.6	1.5	1.5	0.6
West	1.9	1.7	2.0	1.4	2.3	2.5	1.7	0.9
Percent minority enrollment in school								
5 percent or less	1.5	1.7	1.7	1.3	1.6	2.0	1.5	0.7
6 to 20 percent	1.5	1.5	1.8	1.2	2.2	1.8	1.5	0.9
21 to 50 percent	1.7	1.9	1.8	1.1	1.7	1.8	1.5	0.7
More than 50 percent	1.6	2.1	1.8	1.0	2.2	2.1	1.8	0.8
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.4	1.3	1.7	0.8	2.2	1.9	1.4	1.0
15 to 32 percent	1.6	1.8	1.8	1.2	1.5	1.7	1.3	0.8
33 to 59 percent	1.6	1.7	1.9	1.2	1.9	2.1	2.0	0.7
60 percent or more	1.4	1.9	1.6	1.0	1.9	2.1	2.0	0.7
Main teaching assignment								
General elementary[3]	1.1	1.5	1.5	1.0	1.5	1.6	1.4	0.7
Math/science	1.6	1.7	1.4	1.2	1.4	1.6	1.5	0.8
Other targeted academic subject	1.3	1.5	1.4	0.8	1.3	1.3	1.2	0.7
Teaching experience								
3 or fewer years	1.7	1.9	2.2	1.0	1.7	2.3	2.1	0.7
4 to 9 years	1.8	1.8	1.4	1.0	1.5	1.8	1.5	0.6
10 to 19 years	1.9	2.0	2.2	1.2	1.7	1.8	1.9	1.0
20 or more years	1.4	1.6	1.7	0.9	1.5	1.4	1.2	0.7
Teacher race/ethnicity								
White, non-Hispanic	0.8	1.0	1.0	0.6	1.0	0.9	0.8	0.5
Black, non-Hispanic	3.1	3.5	3.6	1.2	3.8	3.4	2.5	0.2
Other	2.6	3.4	3.4	2.2	3.2	3.4	2.7	2.4
Sex								
Male	1.5	1.8	1.7	1.0	1.6	1.5	1.4	0.8
Female	0.8	1.2	1.2	0.6	1.2	1.3	1.0	0.5

Table B-16a.—Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Maintain order and discipline in the classroom				Address the needs of students with limited English proficiency or from diverse cultural backgrounds[1]			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
All targeted public school teachers[2]	0.7	0.7	0.3	0.2	1.1	1.4	1.0	0.9
School instructional level								
Elementary school	1.2	1.1	0.5	0.3	1.9	2.2	1.9	1.6
Middle school	1.3	1.3	0.7	0.4	1.6	2.0	2.6	1.8
High school	1.3	1.4	0.8	0.3	1.7	1.8	2.0	1.6
Combined	4.1	3.7	1.8	0.9	6.0	5.4	4.4	4.0
School enrollment size								
Less than 300	2.9	2.5	1.4	0.8	3.1	3.6	4.2	3.9
300 to 499	1.7	1.7	1.0	0.4	2.7	2.7	3.2	2.8
500 to 999	1.4	1.2	0.5	0.3	1.5	2.2	2.0	1.4
1,000 or more	1.4	1.4	0.7	0.3	1.8	1.9	1.5	1.4
Locale								
Central city	1.6	1.5	0.7	0.3	1.8	2.7	1.9	1.4
Urban fringe/large town	1.2	1.1	0.5	0.3	1.6	1.9	2.0	1.5
Rural/small town	1.7	1.5	0.7	0.3	2.2	2.7	2.2	2.3
Region								
Northeast	1.7	1.7	0.9	0.2	2.4	2.9	2.7	2.0
Midwest	1.9	1.7	0.7	0.5	2.1	2.5	2.6	2.8
South	1.1	1.1	0.5	0.3	1.6	1.9	1.8	1.5
West	1.9	1.8	0.6	0.2	2.5	2.8	2.7	1.5
Percent minority enrollment in school								
5 percent or less	1.6	1.3	0.7	0.4	2.0	2.9	3.2	3.2
6 to 20 percent	1.4	1.5	0.6	0.3	1.9	2.6	2.1	1.9
21 to 50 percent	1.7	1.7	0.6	0.4	1.9	2.5	2.3	1.7
More than 50 percent	1.6	1.6	0.8	0.3	2.4	2.4	1.9	1.3
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.5	1.4	0.6	0.3	1.8	2.1	1.9	2.0
15 to 32 percent	1.5	1.5	0.7	0.4	1.8	2.6	2.3	2.1
33 to 59 percent	2.0	1.6	0.7	0.4	2.0	2.7	2.4	1.8
60 percent or more	1.4	1.4	0.9	0.3	2.4	2.2	2.1	1.6
Main teaching assignment								
General elementary[3]	1.2	1.1	0.5	0.3	1.9	2.3	2.0	1.7
Math/science	1.4	1.5	0.6	0.4	1.4	2.0	2.4	2.0
Other targeted academic subject	1.2	1.2	0.6	0.3	1.4	1.9	1.7	1.5
Teaching experience								
3 or fewer years	2.0	1.8	1.3	0.5	1.9	2.7	2.7	1.6
4 to 9 years	1.7	1.8	0.7	0.4	2.2	2.5	2.8	1.9
10 to 19 years	1.7	1.4	0.7	0.4	2.0	2.4	2.3	1.8
20 or more years	1.2	1.2	0.6	0.2	1.8	2.1	1.8	1.7
Teacher race/ethnicity								
White, non-Hispanic	0.8	0.8	0.4	0.2	1.0	1.6	1.1	1.1
Black, non-Hispanic	3.6	3.5	1.4	0.8	4.2	5.2	4.7	2.4
Other	3.0	2.8	1.7	0.3	5.1	4.7	3.5	2.2
Sex								
Male	1.5	1.4	0.6	0.4	1.5	2.1	2.0	1.8
Female	0.9	0.9	0.4	0.2	1.3	1.7	1.3	1.0

Table B-16a.—Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by selected school and teacher characteristics: 1998 (continued)

School and teacher characteristic	Address the needs of students with disabilities[1]			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
All targeted public school teachers[2]	0.8	1.1	1.0	0.6
School instructional level				
Elementary school	1.5	1.9	1.6	1.0
Middle school	1.7	2.4	2.1	0.9
High school	1.4	1.9	1.7	1.1
Combined	3.3	3.9	4.0	1.9
School enrollment size				
Less than 300	2.9	3.7	4.3	1.0
300 to 499	2.2	2.8	2.3	1.4
500 to 999	1.5	1.8	1.4	0.9
1,000 or more	1.6	2.0	1.9	1.1
Locale				
Central city	1.7	2.2	2.1	1.3
Urban fringe/large town	1.4	1.9	1.5	1.0
Rural/small town	1.5	2.3	1.9	0.8
Region				
Northeast	2.1	2.7	2.7	1.4
Midwest	1.5	2.2	2.2	1.1
South	1.4	1.9	1.6	0.9
West	2.2	2.4	2.3	1.5
Percent minority enrollment in school				
5 percent or less	1.9	2.1	2.0	0.8
6 to 20 percent	1.9	2.5	2.1	1.1
21 to 50 percent	2.0	2.3	2.2	1.2
More than 50 percent	1.9	2.4	2.4	1.4
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent	1.7	2.4	2.1	0.9
15 to 32 percent	1.6	2.1	2.1	1.0
33 to 59 percent	1.8	2.2	2.6	1.0
60 percent or more	1.6	2.1	2.1	1.5
Main teaching assignment				
General elementary[3]	1.6	1.9	1.6	0.9
Math/science	1.9	2.4	2.2	1.1
Other targeted academic subject	1.4	1.7	1.7	0.8
Teaching experience				
3 or fewer years	1.9	2.3	2.2	1.4
4 to 9 years	1.6	2.6	2.4	1.1
10 to 19 years	2.1	2.5	2.1	1.1
20 or more years	1.6	1.9	1.7	1.2
Teacher race/ethnicity				
White, non-Hispanic	0.9	1.2	1.0	0.7
Black, non-Hispanic	4.0	4.8	5.2	2.5
Other	3.6	4.8	4.1	2.5
Sex				
Male	1.5	2.4	2.1	1.2
Female	1.1	1.3	1.2	0.7

[1] Estimates are based on teachers who teach students with these characteristics.

[2] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science, or who taught a self-contained classroom.

[3] The category labeled general elementary includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Appendix C

Detailed Tables of Estimates
and
Tables of Standard Errors
for the
1993-94 SASS Study

Table of Contents

Detailed Tables of Estimates and Tables of Standard Errors for the 1993-94 SASS Study

Table **Page**

C-1 Number and percent of full-time public school teachers, by selected school and teacher characteristics: 1993-94 5

C-1a Standard errors of the number and percent of full-time public school teachers, by selected school and teacher characteristics: 1993-94 6

C-2 Average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1993-94 7

C-2a Standard errors of the average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1993-94 8

C-3 Percent of full-time public school teachers who hold bachelor's, master's, and doctorates, by selected school and teacher characteristics: 1993-94 9

C-3a Standard errors of the percent of full-time public school teachers who hold bachelor's, master's, and doctorates, by selected school and teacher characteristics: 1993-94 10

C-4 Percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1993-94 11

C-4a Standard errors of the percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1993-94 12

C-5 Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1993-94 13

C-5a Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1993-94 14

C-6 Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1993-94 15

C-6a Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1993-94 16

Table of Contents (continued)

Detailed Tables of Estimates and Tables of Standard Errors for the 1993-94 SASS Study (continued)

Table		Page
C-7	Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94	17
C-7a	Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94	18
C-8	Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94	19
C-8a	Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94	20
C-9	Percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94	21
C-9a	Standard errors of the percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94	24
C-10	Percent of full-time public school teachers who participated in a formal induction program during their first year of teaching and percent of full-time public school teachers who are currently a master or mentor teacher in a formal teacher induction program, by selected school and teacher characteristics: 1993-94	27
C-10a	Standard errors of the percent of full-time public school teachers who participated in a formal induction program during their first year of teaching and percent of full-time public school teachers who are currently a master or mentor teacher in a formal teacher induction program, by selected school and teacher characteristics: 1993-94	28
C-11	Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1993-94	29
C-11a	Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1993-94	30
C-12	Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1993-94	31
C-12a	Standard errors of the percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1993-94	33

Table C-1.—Number and percent of full-time public school teachers, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Number	Percent
All targeted public school teachers[1]	1,427,637	100
School instructional level		
Elementary school	751,896	53
Middle school	249,962	18
High school	312,903	22
Combined	112,875	8
School enrollment size		
Less than 300	154,837	11
300 to 499	333,264	23
500 to 999	640,920	45
1,000 or more	298,617	21
Locale		
Central city	377,354	26
Urban fringe/large town	454,223	32
Rural/small town	596,061	42
Region		
Northeast	280,182	20
Midwest	340,980	24
South	539,154	38
West	267,322	19
Percent minority enrollment in school		
5 percent or less	496,511	35
6 to 20 percent	333,358	23
21 to 50 percent	296,121	21
More than 50 percent	301,648	21
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	374,373	27
15 to 32 percent	368,534	26
33 to 59 percent	358,508	25
60 percent or more	305,214	22
Main teaching assignment		
General elementary[2]	717,116	50
Math/science	300,811	21
Other targeted academic subject	409,711	29
Teaching experience		
3 or fewer years	168,917	12
4 to 9 years	284,902	20
10 to 19 years	420,281	29
20 or more years	553,537	39
Teacher race/ethnicity		
White, non-Hispanic	1,246,618	87
Black, non-Hispanic	101,743	7
Other	79,276	6
Sex		
Male	352,900	25
Female	1,074,737	75

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

NOTE: Details may not sum to totals because of rounding. Percents are computed within each classification variable, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-1a.—Standard errors of the number and percent of full-time public school teachers, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Number	Percent
All targeted public school teachers[1]	16,613	*
School instructional level		
Elementary school	14,474	0.7
Middle school	10,464	0.7
High school	5,997	0.3
Combined	3,197	0.2
School enrollment size		
Less than 300	4,067	0.4
300 to 499	7,365	0.5
500 to 999	13,994	0.7
1,000 or more	9,285	0.5
Locale		
Central city	9,720	0.5
Urban fringe/large town	11,275	0.6
Rural/small town	8,452	0.6
Region		
Northeast	7,119	0.4
Midwest	6,328	0.3
South	7,700	0.5
West	6,332	0.4
Percent minority enrollment in school		
5 percent or less	9,543	0.6
6 to 20 percent	9,533	0.7
21 to 50 percent	9,251	0.6
More than 50 percent	11,830	0.7
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	11,061	0.7
15 to 32 percent	11,657	0.8
33 to 59 percent	10,207	0.7
60 percent or more	11,271	0.7
Main teaching assignment		
General elementary[2]	12,428	0.6
Math/science	5,492	0.3
Other targeted academic subject	8,305	0.5
Teaching experience		
3 or fewer years		
4 to 9 years	4,742	0.3
10 to 19 years	5,661	0.3
20 or more years	7,282	0.5
	10,098	0.4
Teacher race/ethnicity		
White, non-Hispanic	16,522	0.4
Black, non-Hispanic	3,892	0.3
Other	4,277	0.3
Sex		
Male	7,485	0.4
Female	14,266	0.4

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-2.—Average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Total years as a teacher	Years as a teacher in the current school
All targeted public school teachers[1]	16	10
School instructional level		
Elementary school	15	10
Middle school	15	9
High school	17	12
Combined	16	11
School enrollment size		
Less than 300	16	11
300 to 499	16	11
500 to 999	15	10
1,000 or more	16	10
Locale		
Central city	15	9
Urban fringe/large town	16	10
Rural/small town	15	11
Region		
Northeast	18	13
Midwest	17	12
South	14	9
West	15	9
Percent minority enrollment in school		
5 percent or less	16	12
6 to 20 percent	16	10
21 to 50 percent	16	9
More than 50 percent	14	9
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	17	11
15 to 32 percent	16	10
33 to 59 percent	15	10
60 percent or more	14	9
Main teaching assignment		
General elementary[2]	15	10
Math/science	16	11
Other targeted academic subject	16	11
Teaching experience		
3 or fewer years	2	2
4 to 9 years	6	5
10 to 19 years	15	9
20 or more years	26	17
Teacher race/ethnicity		
White, non-Hispanic	16	10
Black, non-Hispanic	17	10
Other	13	8
Sex		
Male	17	12
Female	15	10

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

NOTE: Details may not sum to totals because of rounding. Percents are computed within each classification variable, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-2a.—Standard errors of the average number of total years as a teacher and as a teacher in the current school for full-time public school teachers, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Total years as a teacher	Years as a teacher in the current school
All targeted public school teachers[1]	0.1	0.1
School instructional level		
Elementary school	0.1	0.1
Middle school	0.3	0.2
High school	0.1	0.1
Combined	0.2	0.2
School enrollment size		
Less than 300	0.2	0.2
300 to 499	0.2	0.2
500 to 999	0.2	0.1
1,000 or more	0.2	0.2
Locale		
Central city	0.2	0.2
Urban fringe/large town	0.2	0.2
Rural/small town	0.1	0.1
Region		
Northeast	0.2	0.3
Midwest	0.2	0.1
South	0.1	0.1
West	0.3	0.2
Percent minority enrollment in school		
5 percent or less	0.2	0.2
6 to 20 percent	0.2	0.2
21 to 50 percent	0.2	0.2
More than 50 percent	0.2	0.2
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	0.2	0.2
15 to 32 percent	0.2	0.2
33 to 59 percent	0.2	0.2
60 percent or more	0.2	0.2
Main teaching assignment		
General elementary[2]	0.1	0.1
Math/science	0.1	0.1
Other targeted academic subject	0.2	0.1
Teaching experience		
3 or fewer years	0.02	0.04
4 to 9 years	0.04	0.1
10 to 19 years	0.04	0.1
20 or more years	0.1	0.1
Teacher race/ethnicity		
White, non-Hispanic	0.1	0.1
Black, non-Hispanic	0.4	0.3
Other	0.3	0.3
Sex		
Male	0.2	0.1
Female	0.1	0.1

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-3.—Percent of full-time public school teachers who hold bachelor's, master's, and doctorates, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Bachelor's degree	Master's degree	Doctorate degree
All targeted public school teachers[1]	100**	46	1
School instructional level			
Elementary school	99	42	*
Middle school	99	46	1
High school	100**	55	1
Combined	100**	47	1
School enrollment size			
Less than 300	99	36	1
300 to 499	100**	45	*
500 to 999	99	45	*
1,000 or more	100**	54	1
Locale			
Central city	100**	49	1
Urban fringe/large town	99	49	1
Rural/small town	100**	41	*
Region			
Northeast	100**	60	1
Midwest	100**	47	*
South	99	42	1
West	99	37	1
Percent minority enrollment in school			
5 percent or less	100**	47	*
6 to 20 percent	99	48	1
21 to 50 percent	100**	44	1
More than 50 percent	99	43	1
Percent of students in school eligible for free or reduced-price school lunch			
Less than 15 percent	100**	53	1
15 to 32 percent	100**	46	*
33 to 59 percent	99	41	1
60 percent or more	99	41	1
Main teaching assignment			
General elementary[2]	99	41	*
Math/science	100**	50	1
Other targeted academic subject	100**	51	1
Teaching experience			
3 or fewer years	99	15	1
4 to 9 years	100**	30	*
10 to 19 years	99	49	1
20 or more years	99	61	1
Teacher race/ethnicity			
White, non-Hispanic	100**	46	1
Black, non-Hispanic	99	52	1
Other	100**	36	2
Sex			
Male	100**	53	1
Female	99	43	*

*Less than 0.5 percent.

**Rounds to 100 percent for presentation in the tables.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-3a.—Standard errors of the percent of full-time public school teachers who hold bachelor's, master's, and doctorates, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Bachelor's degree	Master's degree	Doctorate degree
All targeted public school teachers[1]	0.1	0.5	0.1
School instructional level			
Elementary school	0.1	0.7	0.1
Middle school	0.2	1.4	0.2
High school	0.1	0.7	0.1
Combined	0.1	0.8	0.2
School enrollment size			
Less than 300	0.2	1.3	0.3
300 to 499	0.1	1.1	0.2
500 to 999	0.2	0.8	0.1
1,000 or more	0.1	0.9	0.1
Locale			
Central city	0.1	1.2	0.2
Urban fringe/large town	0.2	0.9	0.1
Rural/small town	0.1	0.7	0.1
Region			
Northeast	0.1	1.1	0.2
Midwest	0.1	1.2	0.04
South	0.1	0.7	0.2
West	0.3	1.2	0.1
Percent minority enrollment in school			
5 percent or less	0.1	1.0	0.1
6 to 20 percent	0.2	1.1	0.1
21 to 50 percent	0.1	1.0	0.2
More than 50 percent	0.1	1.3	0.2
Percent of students in school eligible for free or reduced-price school lunch			
Less than 15 percent	0.1	1.0	0.1
15 to 32 percent	0.1	0.9	0.1
33 to 59 percent	0.1	1.0	0.1
60 percent or more	0.2	1.2	0.2
Main teaching assignment			
General elementary[2]	0.1	0.7	0.1
Math/science	0.1	0.8	0.1
Other targeted academic subject	0.1	0.9	0.2
Teaching experience			
3 or fewer years	0.3	1.0	0.3
4 to 9 years	0.1	1.1	0.2
10 to 19 years	0.1	1.1	0.1
20 or more years	0.1	0.9	0.1
Teacher race/ethnicity			
White, non-Hispanic	0.1	0.6	0.1
Black, non-Hispanic	0.3	1.8	0.2
Other	0.2	1.7	0.5
Sex			
Male	0.1	0.9	0.2
Female	0.1	0.6	0.1

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[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-4.—Percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	94	2	2	1	•	1
School instructional level[2]						
Elementary school	94	2	2	1	•	1
School enrollment size						
Less than 300	97	1	1	1	•	1
300 to 499	94	2	2	•	•	1
500 to 999	93	1	2	1	•	1
1,000 or more	86	1	3	5	1	4
Locale						
Central city	90	2	2	2	•	2
Urban fringe/large town	96	1	2	1	•	1
Rural/small town	95	2	1	1	•	1
Region						
Northeast	91	2	3	1	•	2
Midwest	95	3	1	•	0	1
South	95	1	2	1	•	1
West	92	•	2	2	1	2
Percent minority enrollment in school						
5 percent or less	95	1	1	1	•	1
6 to 20 percent	95	2	2	1	0	•
21 to 50 percent	94	1	2	1	•	1
More than 50 percent	90	2	2	1	1	2
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	96	1	1	1	0	•
15 to 32 percent	96	1	1	•	•	1
33 to 59 percent	93	2	2	1	•	1
60 percent or more	91	2	2	1	1	2
Teaching experience						
3 or fewer years	73	5	9	5	2	3
4 to 9 years	92	2	2	1	•	1
10 to 19 years	97	1	•	•	0	1
20 or more years	99	•	•	•	•	1
Teacher race/ethnicity						
White, non-Hispanic	95	1	2	1	•	1
Black, non-Hispanic	87	4	0	1	1	4
Other	89	2	4	1	1	3
Sex						
Male	91	2	3	1	•	3
Female	94	2	1	1	•	1

•Less than 0.5 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] Data for general elementary classrooms are reported for elementary schools only. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in general elementary classrooms include teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary. Percents are computed across each row, but may not sum to 100 because of rounding. Zeros indicate that no teacher in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-4a.—Standard errors of the percent of full-time public school teachers in general elementary classrooms with various types of teaching certificates in their state, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	0.5	0.2	0.2	0.2	0.1	0.2
School instructional level[2]						
Elementary school	0.5	0.2	0.2	0.2	0.1	0.2
School enrollment size						
Less than 300	0.8	0.4	0.4	0.3	0.1	0.5
300 to 499	0.7	0.5	0.4	0.2	0.2	0.2
500 to 999	0.7	0.3	0.3	0.3	0.2	0.3
1,000 or more	3.8	0.9	1.5	1.7	0.8	1.8
Locale						
Central city	1.2	0.6	0.4	0.4	0.2	0.6
Urban fringe/large town	0.7	0.2	0.5	0.3	0.3	0.2
Rural/small town	0.6	0.4	0.2	0.2	0.2	0.2
Region						
Northeast	1.4	0.8	0.7	0.3	0.2	0.8
Midwest	0.9	0.7	0.3	0.1	*	0.2
South	0.6	0.3	0.3	0.2	0.01	0.2
West	1.3	0.1	0.4	0.7	0.6	0.5
Percent minority enrollment in school						
5 percent or less	0.8	0.3	0.4	0.4	0.01	0.3
6 to 20 percent	0.6	0.5	0.4	0.3	*	0.1
21 to 50 percent	0.9	0.6	0.5	0.4	0.2	0.4
More than 50 percent	1.5	0.6	0.5	0.4	0.6	0.7
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	0.7	0.4	0.3	0.5	*	0.3
15 to 32 percent	0.7	0.3	0.4	0.2	0.2	0.4
33 to 59 percent	0.8	0.6	0.4	0.3	0.2	0.3
60 percent or more	1.3	0.5	0.5	0.3	0.4	0.6
Teaching experience						
3 or fewer years	2.8	1.2	1.5	1.1	1.0	0.8
4 to 9 years	0.9	0.6	0.4	0.4	0.3	0.2
10 to 19 years	0.6	0.4	0.2	0.2	*	0.4
20 or more years	0.4	0.2	0.1	0.01	0.01	0.3
Teacher race/ethnicity						
White, non-Hispanic	0.4	0.2	0.2	0.2	0.1	0.1
Black, non-Hispanic	2.5	1.7	*	0.8	0.8	1.3
Other	2.3	0.7	1.2	0.4	0.3	1.5
Sex						
Male	1.4	0.7	1.1	0.6	0.1	0.8
Female	0.5	0.2	0.2	0.2	0.2	0.2

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] Data for general elementary classrooms are reported for elementary schools only. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in general elementary classrooms include teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-5.—Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	90	2	2	1	*	4
School instructional level[2]						
Middle school	87	2	2	1	*	7
High school	93	2	2	1	*	2
Combined	92	2	2	1	*	3
School enrollment size						
Less than 300	91	2	2	1	*	4
300 to 499	88	3	2	1	*	6
500 to 999	89	2	1	1	*	5
1,000 or more	91	2	2	1	1	3
Locale						
Central city	88	2	1	1	1	6
Urban fringe/large town	91	2	2	1	*	4
Rural/small town	90	2	2	1	*	4
Region						
Northeast	89	3	2	2	*	4
Midwest	92	3	1	1	*	3
South	90	2	2	1	*	5
West	88	1	2	2	1	5
Percent minority enrollment in school						
5 percent or less	91	2	2	1	*	4
6 to 20 percent	90	2	2	1	*	4
21 to 50 percent	91	1	1	1	*	4
More than 50 percent	87	3	1	1	1	7
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	91	2	2	1	*	3
15 to 32 percent	91	1	2	1	*	3
33 to 59 percent	89	2	2	1	1	6
60 percent or more	86	3	1	1	*	8
Main teaching assignment						
Math/science	88	2	1	1	1	5
Other targeted academic subject	91	2	2	1	*	4
Teaching experience						
3 or fewer years	66	8	11	4	2	9
4 to 9 years	86	3	1	2	*	5
10 to 19 years	94	1	*	*	*	4
20 or more years	96	*	0	*	0	3
Teacher race/ethnicity						
White, non-Hispanic	91	2	2	1	*	4
Black, non-Hispanic	82	5	*	3	1	8
Other	83	2	2	2	1	7
Sex						
Male	92	2	1	1	1	3
Female	89	2	2	1	*	6

*Less than 0.5 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in departmentalized settings include teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science. Percents are computed across each row, but may not sum to 100 because of rounding. Zeros indicate that no teacher in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-5a.—Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their main teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	0.4	0.2	0.1	0.1	0.1	0.3
School instructional level[2]						
Middle school	0.9	0.4	0.4	0.3	0.2	0.6
High school	0.3	0.1	0.1	0.1	0.1	0.2
Combined	0.5	0.2	0.2	0.2	0.1	0.3
School enrollment size						
Less than 300	1.0	0.3	0.9	0.2	0.1	0.7
300 to 499	1.7	0.7	0.5	0.3	0.1	1.3
500 to 999	0.6	0.3	0.1	0.2	0.1	0.4
1,000 or more	0.5	0.2	0.2	0.1	0.2	0.4
Locale						
Central city	0.9	0.4	0.2	0.4	0.2	0.8
Urban fringe/large town	0.7	0.3	0.3	0.1	0.1	0.5
Rural/small town	0.5	0.2	0.2	0.2	0.1	0.4
Region						
Northeast	1.2	0.6	0.6	0.4	0.1	0.8
Midwest	0.7	0.4	0.2	0.2	0.01	0.4
South	0.5	0.2	0.2	0.1	0.1	0.4
West	0.9	0.4	0.2	0.2	0.3	0.6
Percent minority enrollment in school						
5 percent or less	0.5	0.3	0.2	0.2	0.2	0.4
6 to 20 percent	0.8	0.4	0.5	0.2	0.1	0.5
21 to 50 percent	0.7	0.2	0.2	0.2	0.1	0.6
More than 50 percent	1.1	0.6	0.2	0.4	0.2	1.1
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	0.6	0.4	0.4	0.2	0.05	0.4
15 to 32 percent	0.6	0.2	0.2	0.1	0.1	0.4
33 to 59 percent	0.7	0.3	0.3	0.2	0.3	0.6
60 percent or more	1.5	0.7	0.2	0.5	0.2	1.5
Main teaching assignment						
Math/science	0.5	0.3	0.1	0.2	0.1	0.4
Other targeted academic	0.5	0.2	0.2	0.2	0.1	0.3
Teaching experience						
3 or fewer years	1.5	0.8	0.9	0.5	0.5	1.0
4 to 9 years	1.2	0.6	0.3	0.4	0.1	0.8
10 to 19 years	0.6	0.3	0.1	0.1	0.04	0.5
20 or more years	0.4	0.1	•	0.03	•	0.4
Teacher race/ethnicity						
White, non-Hispanic	0.4	0.2	0.2	0.1	0.1	0.3
Black, non-Hispanic	2.7	1.5	0.3	1.1	0.8	1.2
Other	2.0	0.6	0.5	0.5	0.3	1.8
Sex						
Male	0.5	0.1	0.2	0.2	0.2	0.5
Female	0.5	0.3	0.2	0.1	0.1	0.4

•Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in departmentalized settings include teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-6.—Percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	58	2	1	1	•	38
School instructional level[2]						
Middle school	55	1	1	1	•	41
High school	61	1	1	1	•	33
Combined	62	2	1	1	•	32
School enrollment size						
Less than 300	65	1	•	•	•	31
300 to 499	60	2	1	1	•	36
500 to 999	55	2	1	1	•	41
1,000 or more	57	1	1	1	•	36
Locale						
Central city	49	1	1	1	•	46
Urban fringe/large town	60	1	1	1	•	37
Rural/small town	61	2	1	1	•	34
Region						
Northeast	60	3	•	•	0	36
Midwest	62	2	1	1	•	33
South	57	1	1	•	•	39
West	53	1	1	2	•	42
Percent minority enrollment in school						
5 percent or less	61	2	1	1	•	34
6 to 20 percent	60	1	1	•	•	37
21 to 50 percent	60	1	•	1	•	36
More than 50 percent	48	1	•	1	•	46
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	61	2	1	1	•	35
15 to 32 percent	58	2	1	1	•	37
33 to 59 percent	56	1	1	1	•	38
60 percent or more	54	1	1	•	•	42
Main teaching assignment						
Math/science	58	2	1	1	•	37
Other targeted academic	58	1	1	1	•	38
Teaching experience						
3 or fewer years	36	4	5	2	•	51
4 to 9 years	50	2	•	1	•	44
10 to 19 years	65	1	1	•	•	32
20 or more years	64	1	•	•	•	34
Teacher race/ethnicity						
White, non-Hispanic	59	1	1	1	•	36
Black, non-Hispanic	41	3	0	0	•	54
Other	50	2	•	2	•	42
Sex						
Male	61	1	1	1	•	35
Female	56	2	1	1	•	39

•Less than 0.5 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in departmentalized settings include teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science. Percents are computed across each row, but may not sum to 100 because of rounding. Zeros indicate that no teachers in the sample gave the indicated response.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-6a.—Standard errors of the percent of full-time public school teachers in departmentalized settings with various types of teaching certificates in their state in their secondary teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Regular or standard state certificate, or advanced professional certificate	Provisional or other type of certificate given while participating in an "alternative certification program"	Probationary certificate	Temporary certificate	Emergency certificate or waiver	No certificate
All targeted public school teachers[1]	0.9	0.2	0.2	0.1	0.05	0.9
School instructional level[2]						
Middle school	2.0	0.3	0.5	0.1	0.1	2.0
High school	1.1	0.3	0.2	0.2	0.1	1.0
Combined	1.4	0.3	0.3	0.2	0.1	1.2
School enrollment size						
Less than 300	2.2	0.3	0.3	0.1	0.1	2.4
300 to 499	2.1	0.7	0.5	0.3	0.1	2.1
500 to 999	1.7	0.5	0.3	0.3	0.03	1.7
1,000 or more	1.5	0.3	0.3	0.2	0.2	1.3
Locale						
Central city	2.2	0.3	0.4	0.4	0.1	2.0
Urban fringe/large town	1.6	0.1	0.2	0.2	0.1	1.5
Rural/small town	1.3	0.5	0.3	0.1	0.03	1.4
Region						
Northeast	2.1	1.0	0.2	0.1	•	2.1
Midwest	1.7	0.5	0.5	0.4	0.05	1.5
South	1.5	0.2	0.3	0.2	0.04	1.6
West	2.2	0.3	0.2	0.3	0.2	2.2
Percent minority enrollment in school						
5 percent or less	1.6	0.4	0.4	0.1	0.1	1.6
6 to 20 percent	1.9	0.7	0.4	0.1	0.01	2.0
21 to 50 percent	2.2	0.2	0.1	0.6	0.1	2.2
More than 50 percent	2.4	0.4	0.2	0.3	0.2	2.4
Percent of students in school eligible for free or reduced-price school lunch						
Less than 15 percent	1.7	0.6	0.3	0.2	0.1	1.6
15 to 32 percent	1.3	0.5	0.5	0.2	0.1	1.3
33 to 59 percent	2.7	0.4	0.3	0.5	0.1	2.6
60 percent or more	2.1	0.3	0.3	0.1	0.02	2.1
Main teaching assignment						
Math/science	1.2	0.4	0.1	0.1	0.3	1.3
Other targeted academic subject	1.3	0.3	0.4	0.2	0.1	1.3
Teaching experience						
3 or fewer years	2.6	0.9	1.4	0.5	0.1	3.2
4 to 9 years	2.2	0.8	0.2	0.5	0.1	2.2
10 to 19 years	1.8	0.2	0.3	0.2	0.1	1.3
20 or more years	1.2	0.3	0.02	0.1	0.1	1.3
Teacher race/ethnicity						
White, non-Hispanic	0.9	0.3	0.2	0.2	0.05	0.9
Black, non-Hispanic	4.4	1.3	•	•	0.2	4.8
Other	5.3	1.0	0.1	0.8	0.1	5.3
Sex						
Male	1.3	0.2	0.2	0.2	0.1	1.4
Female	1.3	0.4	0.3	0.2	0.02	1.2

•Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] Data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

NOTE: Teachers referred to here as teachers in departmentalized settings include teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-7.—Percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	78	93	87	77	82
School enrollment size					
Less than 300	72	92	81	70	83
300 to 499	77	90	86	73	75
500 to 999	73	93	83	71	80
1,000 or more	84	94	92	85	86
Locale					
Central city	78	96	89	76	83
Urban fringe/large town	79	93	89	77	79
Rural/small town	77	92	85	78	84
Region					
Northeast	80	97	88	82	86
Midwest	78	95	88	80	85
South	77	92	86	78	78
West	76	87	87	64	84
Percent minority enrollment in school					
5 percent or less	78	93	88	79	82
6 to 20 percent	78	94	87	79	89
21 to 50 percent	81	90	85	77	79
More than 50 percent	74	96	88	71	77
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	84	94	89	81	86
15 to 32 percent	78	92	89	79	84
33 to 59 percent	73	92	84	70	76
60 percent or more	70	95	81	70	75
Teaching experience					
3 or fewer years	81	87	91	80	78
4 to 9 years	76	92	82	72	81
10 to 19 years	73	96	86	76	81
20 or more years	82	94	88	80	85
Teacher race/ethnicity					
White, non-Hispanic	79	94	87	78	83
Black, non-Hispanic	69	#	85	77	73
Other	69	88	88	63	83
Sex					
Male	82	89	90	79	87
Female	77	94	81	75	76

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-7a.—Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	1.0	0.8	0.9	0.9	1.1
School enrollment size					
Less than 300	3.2	2.7	2.9	3.2	2.6
300 to 499	2.4	3.6	2.1	3.3	3.1
500 to 999	1.8	1.1	1.8	1.8	2.2
1,000 or more	1.2	1.0	0.9	1.1	1.4
Locale					
Central city	2.1	1.2	1.4	2.2	1.9
Urban fringe/large town	1.9	1.2	1.5	2.2	2.3
Rural/small town	1.4	1.3	1.5	1.6	1.4
Region					
Northeast	2.2	0.6	2.5	2.3	2.2
Midwest	1.7	1.0	1.2	2.3	1.7
South	1.6	1.5	1.7	1.7	2.0
West	2.6	2.5	1.6	2.3	2.1
Percent minority enrollment in school					
5 percent or less	1.6	1.1	1.3	1.6	1.8
6 to 20 percent	1.6	1.2	1.9	2.7	1.4
21 to 50 percent	1.6	2.4	2.3	2.6	2.2
More than 50 percent	2.6	1.4	1.8	2.8	2.8
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	1.3	0.9	1.4	1.9	1.4
15 to 32 percent	1.6	1.7	1.5	2.2	1.2
33 to 59 percent	2.1	2.7	2.6	2.6	2.6
60 percent or more	2.9	1.9	3.2	3.8	3.9
Teaching experience					
3 or fewer years	3.3	3.3	1.3	2.5	3.4
4 to 9 years	2.6	1.5	2.4	2.7	2.2
10 to 19 years	2.1	0.9	1.7	2.1	1.9
20 or more years	1.2	1.0	1.4	1.6	1.6
Teacher race/ethnicity					
White, non-Hispanic	1.0	0.9	1.0	1.0	1.2
Black, non-Hispanic	4.5	#	2.6	3.7	4.7
Other	6.1	2.3	2.5	6.5	3.7
Sex					
Male	1.5	2.1	1.0	1.4	0.9
Female	1.2	0.8	1.6	1.5	2.0

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-8.—Percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	88	93	92	87	90
School enrollment size					
Less than 300	89	90	87	85	92
300 to 499	87	93	93	88	88
500 to 999	88	92	89	86	91
1,000 or more	87	94	93	87	89
Locale					
Central city	86	96	94	84	90
Urban fringe/large town	88	93	91	88	89
Rural/small town	88	92	91	87	91
Region					
Northeast	85	96	93	88	91
Midwest	89	95	90	92	92
South	88	92	92	87	87
West	88	88	92	77	90
Percent minority enrollment in school					
5 percent or less	88	94	90	88	91
6 to 20 percent	88	94	92	89	94
21 to 50 percent	87	90	91	88	85
More than 50 percent	87	95	94	80	87
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	89	94	91	87	91
15 to 32 percent	86	92	92	88	89
33 to 59 percent	88	93	92	84	86
60 percent or more	89	95	90	83	91
Teaching experience					
3 or fewer years	91	88	90	90	88
4 to 9 years	84	91	91	82	88
10 to 19 years	87	96	91	85	88
20 or more years	88	94	92	89	92
Teacher race/ethnicity					
White, non-Hispanic	88	94	92	87	90
Black, non-Hispanic	92	#	87	81	88
Other	81	87	92	84	85
Sex					
Male	88	88	92	87	90
Female	88	95	90	87	89

#Too few cases for a reliable estimate

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-8a.—Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	0.7	0.7	0.7	0.7	0.6
School enrollment size					
Less than 300	2.1	2.9	2.2	2.2	1.7
300 to 499	1.9	2.9	1.1	2.3	1.9
500 to 999	1.2	1.4	1.3	1.3	1.2
1,000 or more	0.9	1.0	0.7	1.0	0.9
Locale					
Central city	1.9	1.4	1.1	1.7	1.4
Urban fringe/large town	1.2	1.3	1.0	1.2	1.4
Rural/small town	1.1	1.2	1.0	0.9	0.8
Region					
Northeast	1.7	0.7	1.5	1.5	1.5
Midwest	1.2	1.2	1.2	1.0	1.0
South	0.8	1.6	1.2	1.2	1.2
West	1.7	2.5	1.4	1.9	1.2
Percent minority enrollment in school					
5 percent or less	1.2	1.0	1.0	1.0	1.0
6 to 20 percent	1.6	1.2	1.4	1.5	0.9
21 to 50 percent	1.1	2.6	1.4	1.6	1.9
More than 50 percent	1.9	1.7	0.9	2.2	1.7
Percent of students in school eligible for free or reduced-price school lunch					
Less than 15 percent	0.9	0.9	1.0	1.2	1.0
15 to 32 percent	1.2	1.9	1.0	1.1	1.2
33 to 59 percent	1.4	1.8	1.5	2.4	1.8
60 percent or more	1.9	1.5	1.6	1.8	1.5
Teaching experience					
3 or fewer years	1.7	2.8	1.7	1.8	1.6
4 to 9 years	2.1	1.6	1.8	1.9	1.5
10 to 19 years	1.2	1.0	1.3	1.4	1.4
20 or more years	1.1	1.1	0.8	1.1	1.0
Teacher race/ethnicity					
White, non-Hispanic	0.7	0.8	0.7	0.8	0.7
Black, non-Hispanic	1.7	#	3.3	3.6	2.9
Other	3.8	2.3	3.0	2.5	4.7
Sex					
Male	1.1	2.2	0.8	0.9	0.8
Female	0.8	0.7	1.0	1.2	1.0

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-9.—Percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Uses of educational technology for instruction				Methods of teaching your subject field			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	49	36	12	3	33	38	20	8
School instructional level								
Elementary school	49	35	13	3	26	41	24	9
Middle school	49	37	11	3	38	36	19	7
High school	48	37	12	3	44	34	15	6
Combined	52	35	10	3	44	36	13	7
School enrollment size								
Less than 300	53	35	10	2	37	38	19	7
300 to 499	50	35	12	3	32	37	22	9
500 to 999	48	37	12	3	31	39	22	8
1,000 or more	48	36	12	4	40	36	17	8
Locale								
Central city	48	36	13	3	28	40	23	10
Urban fringe/large town	47	38	12	3	33	38	20	8
Rural/small town	51	35	11	3	37	37	19	7
Region								
Northeast	57	30	11	2	37	37	18	7
Midwest	52	36	9	3	39	38	17	6
South	45	38	14	4	30	40	22	8
West	46	37	13	4	30	35	24	12
Percent minority enrollment in school								
5 percent or less	51	35	11	3	37	37	19	7
6 to 20 percent	45	39	13	3	35	37	20	8
21 to 50 percent	48	36	12	4	32	40	20	8
More than 50 percent	51	34	12	3	28	39	24	9
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	46	38	13	3	36	37	19	7
15 to 32 percent	47	38	11	3	36	38	18	8
33 to 59 percent	51	34	12	3	31	38	22	8
60 percent or more	52	32	13	3	30	40	23	8
Main teaching assignment								
General elementary[2]	50	36	12	3	26	41	24	9
Math/science	43	39	14	4	42	33	17	8
Other targeted academic subject	53	34	11	3	40	37	17	7
Teaching experience								
3 or fewer years	54	32	11	2	32	36	22	10
4 to 9 years	47	37	13	3	27	40	22	11
10 to 19 years	47	37	12	4	31	38	22	8
20 or more years	49	36	12	3	38	37	18	6
Teacher race/ethnicity								
White, non-Hispanic	50	36	12	3	34	38	20	8
Black, non-Hispanic	44	38	13	4	27	43	23	7
Other	47	34	14	4	28	35	23	13
Sex								
Male	48	37	12	3	45	35	15	6
Female	49	35	12	3	30	39	22	9

Table C-9.—Percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94 (continued)

School and teacher characteristic	In-depth study in your subject field				Student assessment			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	71	14	9	6	45	43	10	3
School instructional level								
Elementary school	68	16	10	6	40	47	10	3
Middle school	73	14	8	6	46	41	9	3
High school	74	12	8	7	53	36	8	2
Combined	79	11	6	5	54	36	8	2
School enrollment size								
Less than 300	73	12	10	5	47	41	10	3
300 to 499	71	15	9	5	43	45	9	2
500 to 999	71	15	9	6	43	44	10	3
1,000 or more	72	13	8	7	51	37	9	3
Locale								
Central city	66	17	10	7	43	43	10	3
Urban fringe/large town	71	13	9	6	43	44	10	3
Rural/small town	74	13	8	5	48	41	9	2
Region								
Northeast	73	13	8	5	47	42	9	3
Midwest	75	13	7	5	50	40	8	3
South	70	16	9	5	45	43	9	2
West	67	13	11	9	38	45	13	4
Percent minority enrollment in school								
5 percent or less	74	13	8	5	47	41	9	3
6 to 20 percent	72	14	10	5	45	43	10	3
21 to 50 percent	70	14	9	6	46	43	9	2
More than 50 percent	67	16	10	7	42	45	10	3
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	72	13	9	6	47	42	9	2
15 to 32 percent	73	13	8	6	47	42	9	2
33 to 59 percent	72	14	9	5	43	43	10	4
60 percent or more	69	15	9	7	43	44	10	2
Main teaching assignment								
General elementary[2]	69	16	10	5	40	47	10	3
Math/science	74	12	8	6	51	38	8	3
Other targeted academic subject	72	13	8	6	49	38	10	3
Teaching experience								
3 or fewer years	73	13	8	6	44	43	11	2
4 to 9 years	70	13	11	7	43	42	11	3
10 to 19 years	70	15	9	6	45	43	10	3
20 or more years	73	15	8	5	47	42	8	2
Teacher race/ethnicity								
White, non-Hispanic	72	14	9	6	46	42	9	3
Black, non-Hispanic	66	21	9	5	37	47	13	3
Other	65	15	10	10	43	42	12	3
Sex								
Male	75	13	7	5	52	38	8	2
Female	70	15	10	6	43	44	10	3

Table C-9.—Percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94 (continued)

School and teacher characteristic	Cooperative learning in the classroom			
	Total hours spent			
	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	47	39	11	3
School instructional level				
Elementary school	46	39	12	3
Middle school	45	41	11	4
High school	50	37	10	3
Combined	49	40	8	2
School enrollment size				
Less than 300	48	40	9	3
300 to 499	48	38	11	2
500 to 999	46	39	12	3
1,000 or more	47	38	10	4
Locale				
Central city	43	40	13	4
Urban fringe/large town	48	38	11	3
Rural/small town	49	39	10	2
Region				
Northeast	48	37	11	4
Midwest	54	34	9	2
South	40	44	12	3
West	51	36	11	3
Percent minority enrollment in school				
5 percent or less	50	38	10	3
6 to 20 percent	50	38	9	3
21 to 50 percent	46	40	12	3
More than 50 percent	41	41	14	4
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent	49	38	10	3
15 to 32 percent	50	37	10	3
33 to 59 percent	45	40	11	3
60 percent or more	44	40	13	3
Main teaching assignment				
General elementary[2]	46	39	12	3
Math/science	47	40	10	4
Other targeted academic subject	49	37	10	3
Teaching experience				
3 or fewer years	47	39	12	3
4 to 9 years	47	38	12	3
10 to 19 years	46	38	11	4
20 or more years	48	40	10	3
Teacher race/ethnicity				
White, non-Hispanic	49	38	10	3
Black, non-Hispanic	31	45	18	6
Other	37	42	15	6
Sex				
Male	49	38	10	3
Female	46	39	12	3

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

NOTE: Percents are computed across each row for each type of professional development activity, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-9a.—Standard errors of the percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Uses of educational technology for instruction				Methods of teaching your subject field			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	0.6	0.5	0.3	0.2	0.4	0.5	0.3	0.3
School instructional level								
Elementary school	0.9	0.8	0.5	0.2	0.7	0.9	0.5	0.5
Middle school	1.5	1.3	1.0	0.5	1.1	1.0	1.0	0.7
High school	0.7	0.5	0.4	0.3	0.7	0.5	0.4	0.3
Combined	0.8	0.9	0.5	0.2	1.0	0.8	0.6	0.5
School enrollment size								
Less than 300	1.2	1.1	0.8	0.3	1.2	1.2	0.9	0.7
300 to 499	1.1	1.1	0.7	0.3	0.9	1.1	0.7	0.6
500 to 999	0.9	0.8	0.7	0.3	0.8	0.9	0.6	0.5
1,000 or more	1.1	0.8	0.5	0.3	0.8	0.8	0.7	0.6
Locale								
Central city	1.3	1.1	0.6	0.4	0.8	0.7	0.8	0.7
Urban fringe/large town	1.1	1.1	0.6	0.3	1.0	1.0	0.7	0.6
Rural/small town	0.8	0.6	0.5	0.2	0.7	0.6	0.4	0.4
Region								
Northeast	1.5	1.2	1.0	0.3	1.1	1.3	1.1	0.7
Midwest	1.0	0.9	0.6	0.3	0.9	1.0	0.8	0.5
South	0.8	0.7	0.5	0.3	0.7	0.7	0.7	0.4
West	1.4	1.3	0.8	0.4	1.0	0.9	0.9	0.9
Percent minority enrollment in school								
5 percent or less	0.9	0.8	0.6	0.3	0.7	0.9	0.6	0.5
6 to 20 percent	1.1	1.0	0.9	0.3	1.1	1.0	0.8	0.6
21 to 50 percent	1.2	1.2	0.9	0.4	1.0	1.2	0.9	0.7
More than 50 percent	1.5	1.4	0.8	0.4	1.2	1.3	1.0	0.7
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	0.9	0.8	0.7	0.4	1.0	0.9	0.7	0.6
15 to 32 percent	1.1	1.1	0.6	0.4	0.8	0.9	0.6	0.5
33 to 59 percent	1.3	1.2	0.8	0.3	0.7	0.9	0.8	0.8
60 percent or more	1.1	1.3	0.7	0.4	1.2	1.3	1.0	0.7
Main teaching assignment								
General elementary[2]	0.8	0.8	0.5	0.2	0.7	0.8	0.6	0.5
Math/science	1.1	0.8	0.6	0.3	1.0	0.8	0.6	0.5
Other targeted academic subject	0.8	0.8	0.6	0.3	0.7	0.6	0.5	0.4
Teaching experience								
3 or fewer years	1.5	1.2	1.0	0.5	1.2	1.5	1.5	1.5
4 to 9 years	1.2	1.1	0.9	0.4	0.9	1.0	0.8	0.8
10 to 19 years	0.9	0.9	0.5	0.3	0.9	0.7	0.7	0.5
20 or more years	0.9	0.8	0.5	0.3	0.7	0.7	0.5	0.3
Teacher race/ethnicity								
White, non-Hispanic	0.6	0.5	0.4	0.2	0.5	0.5	0.4	0.3
Black, non-Hispanic	1.9	1.9	1.2	0.7	1.4	1.7	1.6	1.1
Other	2.1	1.7	1.8	0.8	1.7	2.2	1.5	1.9
Sex								
Male	0.9	0.8	0.7	0.3	0.8	0.7	0.5	0.5
Female	0.7	0.6	0.4	0.2	0.5	0.6	0.4	0.4

Table C-9a.—Standard errors of the percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94 (continued)

School and teacher characteristic	In-depth study in your subject field				Student assessment			
	Total hours spent				Total hours spent			
	0	1 to 8	9 to 32	More than 32	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	0.4	0.3	0.3	0.2	0.5	0.5	0.3	0.2
School instructional level								
Elementary school	0.7	0.6	0.5	0.3	0.8	0.9	0.5	0.3
Middle school	1.0	0.9	0.6	0.6	1.1	1.2	0.7	0.5
High school	0.4	0.4	0.3	0.3	0.6	0.5	0.3	0.2
Combined	0.7	0.5	0.4	0.4	1.3	1.2	0.4	0.2
School enrollment size								
Less than 300	1.2	0.7	0.7	0.6	1.3	1.3	0.9	0.3
300 to 499	1.1	0.7	0.7	0.5	1.1	1.2	0.6	0.3
500 to 999	0.7	0.6	0.5	0.3	0.8	0.8	0.6	0.3
1,000 or more	0.5	0.5	0.3	0.3	0.8	0.8	0.5	0.3
Locale								
Central city	1.0	0.8	0.6	0.6	1.1	1.1	0.7	0.5
Urban fringe/large town	0.9	0.6	0.5	0.4	0.8	1.0	0.6	0.3
Rural/small town	0.6	0.4	0.4	0.2	0.7	0.6	0.5	0.2
Region								
Northeast	0.9	0.9	0.7	0.5	1.4	1.4	0.9	0.4
Midwest	0.8	0.6	0.5	0.3	0.7	0.7	0.5	0.3
South	0.7	0.6	0.5	0.4	1.0	0.9	0.5	0.2
West	1.2	0.9	0.8	0.6	1.0	1.4	0.7	0.5
Percent minority enrollment in school								
5 percent or less	0.7	0.5	0.4	0.3	0.7	0.8	0.4	0.3
6 to 20 percent	0.9	0.7	0.7	0.4	1.0	1.0	0.5	0.4
21 to 50 percent	1.0	0.7	0.7	0.7	1.4	1.3	0.8	0.3
More than 50 percent	1.1	1.0	0.8	0.7	1.1	1.4	0.7	0.5
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	0.8	0.5	0.6	0.4	0.9	1.0	0.6	0.4
15 to 32 percent	0.9	0.6	0.6	0.4	0.9	0.9	0.6	0.3
33 to 59 percent	0.9	0.6	0.6	0.4	1.1	1.1	0.7	0.4
60 percent or more	1.0	0.7	0.6	0.7	1.2	1.2	0.7	0.3
Main teaching assignment								
General elementary[2]	0.6	0.6	0.5	0.3	0.8	0.9	0.5	0.3
Math/science	0.8	0.5	0.5	0.4	0.9	0.9	0.5	0.3
Other targeted academic subject	0.6	0.5	0.4	0.5	0.8	0.7	0.5	0.3
Teaching experience								
3 or fewer years	1.3	1.0	0.9	0.7	1.3	1.5	0.9	0.3
4 to 9 years	0.9	0.7	0.8	0.5	1.1	1.1	0.6	0.4
10 to 19 years	0.9	0.7	0.5	0.4	1.1	1.0	0.5	0.4
20 or more years	0.7	0.5	0.4	0.3	0.6	0.6	0.5	0.3
Teacher race/ethnicity								
White, non-Hispanic	0.4	0.3	0.3	0.2	0.5	0.5	0.3	0.2
Black, non-Hispanic	1.6	1.4	0.9	0.8	1.5	1.6	1.2	0.7
Other	2.1	1.3	1.2	1.5	2.1	1.9	1.0	0.8
Sex								
Male	0.8	0.6	0.4	0.4	0.8	0.8	0.4	0.3
Female	0.5	0.4	0.4	0.3	0.6	0.6	0.4	0.2

Table C-9a.—Standard errors of the percent of full-time public school teachers who participated in in-service or professional development activities of various lengths that focused on various topics, by selected school and teacher characteristics: 1993-94 (continued)

School and teacher characteristic	Cooperative learning in the classroom			
	Total hours spent			
	0	1 to 8	9 to 32	More than 32
All targeted public school teachers[1]	0.5	0.5	0.3	0.2
School instructional level				
Elementary school	0.7	0.9	0.6	0.3
Middle school	1.4	1.3	0.8	0.5
High school	0.7	0.6	0.4	0.2
Combined	1.2	1.0	0.5	0.2
School enrollment size				
Less than 300	1.3	1.3	0.7	0.4
300 to 499	1.0	0.8	0.7	0.3
500 to 999	0.9	0.9	0.6	0.3
1,000 or more	0.8	0.8	0.5	0.4
Locale				
Central city	1.1	1.2	0.7	0.5
Urban fringe/large town	1.1	1.0	0.7	0.3
Rural/small town	0.6	0.6	0.4	0.2
Region				
Northeast	1.5	1.3	0.8	0.5
Midwest	0.8	0.8	0.5	0.3
South	0.7	0.8	0.5	0.3
West	1.3	1.2	0.7	0.4
Percent minority enrollment in school				
5 percent or less	0.8	0.8	0.5	0.3
6 to 20 percent	1.1	1.0	0.6	0.3
21 to 50 percent	1.2	1.2	0.6	0.5
More than 50 percent	1.2	1.2	1.0	0.5
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent				
15 to 32 percent	1.0	0.9	0.5	0.3
33 to 59 percent	0.9	1.0	0.5	0.3
60 percent or more	1.1	1.0	0.7	0.4
	1.1	1.0	1.0	0.5
Main teaching assignment				
General elementary[2]				
Math/science	0.8	0.9	0.6	0.3
Other targeted academic subject	0.8	0.7	0.4	0.4
	0.8	0.7	0.4	0.3
Teaching experience				
3 or fewer years				
4 to 9 years	1.3	1.3	0.8	0.5
10 to 19 years	1.1	1.0	0.6	0.3
20 or more years	0.8	0.9	0.6	0.3
	0.9	0.9	0.5	0.3
Teacher race/ethnicity				
White, non-Hispanic	0.5	0.5	0.3	0.2
Black, non-Hispanic	1.5	2.0	1.5	1.0
Other	2.1	2.5	1.6	1.2
Sex				
Male	0.9	0.7	0.5	0.3
Female	0.5	0.6	0.4	0.2

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[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-10.—Percent of full-time public school teachers who participated in a formal induction program during their first year of teaching and percent of full-time public school teachers who are currently a master or mentor teacher in a formal teacher induction program, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Participated in induction program during first year	Currently a master or mentor teacher
All targeted public school teachers[1]	28	12
School instructional level		
Elementary school	29	12
Middle school	29	13
High school	26	13
Combined	24	10
School enrollment size		
Less than 300	20	10
300 to 499	25	11
500 to 999	30	12
1,000 or more	30	13
Locale		
Central city	33	14
Urban fringe/large town	29	12
Rural/small town	23	11
Region		
Northeast	26	9
Midwest	21	10
South	31	15
West	31	11
Percent minority enrollment in school		
5 percent or less	22	11
6 to 20 percent	26	11
21 to 50 percent	30	13
More than 50 percent	36	14
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	24	12
15 to 32 percent	25	12
33 to 59 percent	29	13
60 percent or more	33	12
Main teaching assignment		
General elementary[2]	29	11
Math/science	27	12
Other targeted academic subject	26	13
Teaching experience		
3 or fewer years	59	3
4 to 9 years	47	10
10 to 19 years	17	14
20 or more years	16	14
Teacher race/ethnicity		
White, non-Hispanic	26	11
Black, non-Hispanic	39	19
Other	37	12
Sex		
Male	27	11
Female	28	12

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[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-10a.—Standard errors of the percent of full-time public school teachers who participated in a formal induction program during their first year of teaching and percent of full-time public school teachers who are currently a master or mentor teacher in a formal teacher induction program, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Participated in induction program during first year	Currently a master or mentor teacher
All targeted public school teachers[1]	0.6	0.4
School instructional level		
Elementary school	0.9	0.5
Middle school	1.2	1.0
High school	0.4	0.4
Combined	0.9	0.6
School enrollment size		
Less than 300	1.2	1.0
300 to 499	1.0	0.6
500 to 999	0.9	0.5
1,000 or more	0.9	0.6
Locale		
Central city	1.2	0.8
Urban fringe/large town	1.0	0.6
Rural/small town	0.7	0.5
Region		
Northeast	1.4	0.9
Midwest	0.9	0.5
South	0.8	0.6
West	1.3	0.8
Percent minority enrollment in school		
5 percent or less	0.8	0.5
6 to 20 percent	1.0	0.8
21 to 50 percent	1.0	0.8
More than 50 percent	1.3	1.0
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	0.8	0.6
15 to 32 percent	1.0	0.5
33 to 59 percent	1.1	0.7
60 percent or more	1.3	0.9
Main teaching assignment		
General elementary[2]	0.9	0.6
Math/science	0.8	0.7
Other targeted academic subject	0.7	0.6
Teaching experience		
3 or fewer years	1.5	0.5
4 to 9 years	1.4	0.8
10 to 19 years	0.7	0.7
20 or more years	0.6	0.5
Teacher race/ethnicity		
White, non-Hispanic	0.6	0.4
Black, non-Hispanic	2.1	1.5
Other	2.2	1.3
Sex		
Male	0.8	0.5
Female	0.7	0.4

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[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-11.—Average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings[2]
All targeted public school teachers[3]	24	24
School instructional level		
Elementary school	24	#
Middle school	#	25
High school	#	23
Combined	#	23
School enrollment size		
Less than 300	21	19
300 to 499	23	22
500 to 999	25	24
1,000 or more	26	25
Locale		
Central city	25	25
Urban fringe/large town	25	24
Rural/small town	23	22
Region		
Northeast	24	22
Midwest	23	23
South	23	24
West	27	26
Percent minority enrollment in school		
5 percent or less	23	23
6 to 20 percent	24	23
21 to 50 percent	24	24
More than 50 percent	24	25
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	24	24
15 to 32 percent	24	23
33 to 59 percent	24	24
60 percent or more	24	24
Teaching experience		
3 or fewer years	24	24
4 to 9 years	24	24
10 to 19 years	24	23
20 or more years	24	24
Teacher race/ethnicity		
White, non-Hispanic	24	24
Black, non-Hispanic	24	25
Other	25	24
Sex		
Male	25	24
Female	24	23

#Data for general elementary classrooms are reported for elementary schools only; data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

[1] The category labeled general elementary classrooms includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

[2] The category labeled departmentalized settings includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

NOTE: Approximately 5 percent of the teachers were excluded from these SASS class size analyses, either because they taught "pull-out" classes, where they provided instruction to students who were released from their regular classes (2 percent), or because of reporting problems in their class size information (3 percent).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-11a.—Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings[2]
All targeted public school teachers[3]	0.1	0.1
School instructional level		
Elementary school	0.1	#
Middle school	#	0.2
High school	#	0.1
Combined	#	0.2
School enrollment size		
Less than 300	0.3	0.3
300 to 499	0.2	0.2
500 to 999	0.1	0.1
1,000 or more	0.5	0.2
Locale		
Central city	0.2	0.2
Urban fringe/large town	0.2	0.1
Rural/small town	0.1	0.1
Region		
Northeast	0.3	0.2
Midwest	0.2	0.1
South	0.1	0.1
West	0.2	0.2
Percent minority enrollment in school		
5 percent or less	0.2	0.1
6 to 20 percent	0.2	0.1
21 to 50 percent	0.2	0.2
More than 50 percent	0.3	0.3
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	0.2	0.1
15 to 32 percent	0.2	0.1
33 to 59 percent	0.2	0.2
60 percent or more	0.2	0.3
Teaching experience		
3 or fewer years	0.3	0.2
4 to 9 years	0.2	0.2
10 to 19 years	0.1	0.2
20 or more years	0.1	0.1
Teacher race/ethnicity		
White, non-Hispanic	0.1	0.1
Black, non-Hispanic	0.4	2.4
Other	0.4	1.5
Sex		
Male	0.3	0.1
Female	0.1	0.1

#Data for general elementary classrooms are reported for elementary schools only; data for departmentalized settings are not reported for elementary schools. Data for all school levels are included in the totals and in analyses by other school and teacher characteristics.

[1] The category labeled general elementary classrooms includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

[2] The category labeled departmentalized settings includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

NOTE: Approximately 5 percent of the teachers were excluded from these SASS class size analyses, either because they taught "pull-out" classes, where they provided instruction to students who were released from their regular classes (2 percent), or because of reporting problems in their class size information (3 percent).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-12.—Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	The school administration's behavior toward the staff is supportive and encouraging				I receive a great deal of support from parents for the work I do			
	Strongly agree	Some-what agree	Some-what disagree	Strongly disagree	Strongly agree	Some-what agree	Some-what disagree	Strongly disagree
All targeted public school teachers[1]	41	38	14	7	11	42	30	17
School instructional level								
Elementary school	44	36	12	7	15	46	26	13
Middle school	41	37	14	8	8	37	34	21
High school	33	42	17	8	6	36	36	23
Combined	36	39	16	8	7	38	34	21
School enrollment size								
Less than 300	40	39	14	7	13	43	30	13
300 to 499	42	38	14	7	12	44	28	16
500 to 999	43	37	13	7	12	42	30	16
1,000 or more	36	40	15	9	7	37	33	23
Locale								
Central city	42	35	14	9	11	37	31	21
Urban fringe/large town	41	38	14	7	13	44	28	15
Rural/small town	40	40	14	7	10	42	31	16
Region								
Northeast	33	39	18	10	13	43	27	17
Midwest	37	38	15	9	10	46	30	14
South	45	38	11	6	10	38	32	20
West	45	37	13	6	12	43	28	17
Percent minority enrollment in school								
5 percent or less	38	39	15	8	11	46	29	14
6 to 20 percent	42	39	13	6	15	48	26	11
21 to 50 percent	44	37	13	6	9	40	32	19
More than 50 percent	40	37	14	9	9	30	34	27
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	38	40	15	8	15	48	27	11
15 to 32 percent	42	38	14	7	11	44	30	16
33 to 59 percent	43	38	12	7	9	41	31	19
60 percent or more	41	37	13	9	10	33	33	25
Main teaching assignment								
General elementary[2]	44	37	12	7	15	47	25	13
Math/science	36	40	16	8	7	36	35	22
Other targeted academic subject	37	39	15	9	7	37	34	22
Teaching experience								
3 or fewer years	48	37	10	5	10	38	34	19
4 to 9 years	40	38	14	8	10	38	31	20
10 to 19 years	41	38	14	8	11	42	30	17
20 or more years	38	39	15	8	12	44	28	15
Teacher race/ethnicity								
White, non-Hispanic	40	38	14	7	11	42	30	17
Black, non-Hispanic	47	33	10	9	18	36	27	19
Other	39	41	12	8	12	42	30	17
Sex								
Male	36	41	15	8	8	38	34	20
Female	42	37	13	7	12	43	29	16

Table C-12.—Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1993-94 (continued)

School and teacher characteristic	Goals and priorities for the school are clear			
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
All targeted public school teachers[1]	37	45	14	4
School instructional level				
Elementary school	44	43	10	3
Middle school	35	44	17	4
High school	27	49	19	5
Combined	27	49	19	5
School enrollment size				
Less than 300	38	45	13	4
300 to 499	42	43	11	4
500 to 999	38	45	13	3
1,000 or more	30	47	18	5
Locale				
Central city	39	44	12	5
Urban fringe/large town	38	45	13	3
Rural/small town	35	46	15	4
Region				
Northeast	34	44	17	5
Midwest	33	49	15	4
South	44	43	11	3
West	33	48	16	4
Percent minority enrollment in school				
5 percent or less	34	47	15	4
6 to 20 percent	40	44	13	3
21 to 50 percent	40	45	12	3
More than 50 percent	38	43	14	5
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent	35	47	14	3
15 to 32 percent	36	46	14	4
33 to 59 percent	40	44	12	3
60 percent or more	39	43	13	5
Main teaching assignment				
General elementary[2]	44	44	10	3
Math/science	29	49	18	5
Other targeted academic subject	32	46	17	5
Teaching experience				
3 or fewer years	37	48	13	2
4 to 9 years	35	46	15	4
10 to 19 years	40	43	13	4
20 or more years	37	46	14	4
Teacher race/ethnicity				
White, non-Hispanic	35	47	14	4
Black, non-Hispanic	57	30	9	4
Other	41	43	12	4
Sex				
Male	27	50	18	5
Female	41	43	12	3

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

NOTE: Percents are computed across each row for each statement, but may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table C-12a.—Standard errors of the percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1993-94

School and teacher characteristic	The school administration's behavior toward the staff is supportive and encouraging				I receive a great deal of support from parents for the work I do			
	Strongly agree	Some-what agree	Some-what disagree	Strongly disagree	Strongly agree	Some-what agree	Some-what disagree	Strongly disagree
All targeted public school teachers[1]	0.5	0.5	0.3	0.3	0.3	0.5	0.4	0.4
School instructional level								
Elementary school	0.8	0.7	0.5	0.5	0.6	0.8	0.6	0.5
Middle school	1.3	1.2	0.9	0.7	0.7	1.1	1.2	1.0
High school	0.6	0.6	0.5	0.3	0.3	0.7	0.5	0.6
Combined	0.9	1.0	0.7	0.6	0.4	0.8	0.9	0.8
School enrollment size								
Less than 300	1.4	1.7	1.0	0.6	1.0	1.3	1.4	0.9
300 to 499	1.1	0.9	0.8	0.7	0.7	1.0	0.9	0.8
500 to 999	0.8	0.7	0.5	0.5	0.5	0.8	0.8	0.6
1,000 or more	1.0	0.8	0.6	0.5	0.5	1.0	0.9	0.8
Locale								
Central city	1.3	1.2	0.7	0.6	0.6	1.0	1.0	0.8
Urban fringe/large town	1.0	0.9	0.7	0.4	0.6	1.1	0.8	0.7
Rural/small town	0.8	0.7	0.5	0.4	0.5	0.7	0.6	0.5
Region								
Northeast	1.4	1.5	1.2	1.0	1.1	1.2	1.2	1.1
Midwest	1.0	1.0	0.6	0.5	0.6	1.0	0.8	0.8
South	0.9	0.8	0.4	0.4	0.5	0.6	0.6	0.5
West	1.2	1.3	0.8	0.6	0.8	1.3	1.1	1.0
Percent minority enrollment in school								
5 percent or less	0.7	0.8	0.6	0.5	0.5	0.7	0.7	0.5
6 to 20 percent	1.1	1.1	0.7	0.6	0.9	1.2	1.0	0.7
21 to 50 percent	1.0	0.9	0.6	0.4	0.8	1.2	1.1	0.8
More than 50 percent	1.3	1.0	0.9	0.8	0.7	1.1	1.0	1.0
Percent of students in school eligible for free or reduced-price school lunch								
Less than 15 percent	1.0	0.8	0.7	0.5	0.7	0.9	0.9	0.6
15 to 32 percent	0.8	0.7	0.6	0.5	0.6	0.9	0.7	0.7
33 to 59 percent	1.2	1.3	0.7	0.6	0.7	1.1	1.0	0.8
60 percent or more	1.3	1.2	0.8	0.7	0.6	1.2	1.0	1.1
Main teaching assignment								
General elementary[2]	0.8	0.7	0.5	0.6	0.6	0.9	0.6	0.5
Math/science	0.8	0.8	0.6	0.5	0.6	0.9	0.8	0.8
Other targeted academic subject	0.8	0.9	0.5	0.4	0.4	0.7	0.7	0.5
Teaching experience								
3 or fewer years	1.5	1.4	0.8	0.7	1.0	1.3	1.4	1.0
4 to 9 years	1.0	1.1	0.6	0.8	0.7	0.9	0.9	0.9
10 to 19 years	0.8	0.8	0.6	0.4	0.7	0.7	0.6	0.6
20 or more years	0.9	0.9	0.6	0.4	0.5	0.8	0.6	0.6
Teacher race/ethnicity								
White, non-Hispanic	0.5	0.6	0.3	0.3	0.3	0.5	0.4	0.4
Black, non-Hispanic	1.7	1.6	1.3	1.6	1.3	1.9	1.6	1.4
Other	2.1	1.8	1.1	1.0	1.4	1.8	2.2	1.5
Sex								
Male	0.8	0.9	0.5	0.6	0.5	0.8	0.7	0.7
Female	0.6	0.6	0.4	0.4	0.4	0.6	0.4	0.4

Table C-12a.—Standard errors of the percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers, by selected school and teacher characteristics: 1993-94 (continued)

School and teacher characteristic	Goals and priorities for the school are clear			
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
All targeted public school teachers[1]	0.5	0.4	0.4	0.2
School instructional level				
Elementary school	0.7	0.7	0.4	0.3
Middle school	1.3	1.3	1.0	0.5
High school	0.6	0.5	0.5	0.2
Combined	1.0	1.0	0.8	0.4
School enrollment size				
Less than 300	1.2	1.3	0.8	0.5
300 to 499	1.1	0.8	0.7	0.3
500 to 999	0.7	0.8	0.6	0.4
1,000 or more	0.9	0.9	0.7	0.3
Locale				
Central city	1.0	0.9	0.8	0.5
Urban fringe/large town	1.1	1.0	0.6	0.3
Rural/small town	0.8	0.6	0.5	0.3
Region				
Northeast	1.1	1.5	0.9	0.6
Midwest	0.8	0.7	0.7	0.4
South	0.9	0.8	0.5	0.3
West	1.1	1.1	0.7	0.4
Percent minority enrollment in school				
5 percent or less	0.6	0.8	0.5	0.3
6 to 20 percent	1.0	0.9	0.6	0.3
21 to 50 percent	1.1	1.0	0.6	0.3
More than 50 percent	1.2	0.9	0.9	0.7
Percent of students in school eligible for free or reduced-price school lunch				
Less than 15 percent	0.7	0.7	0.6	0.3
15 to 32 percent	1.0	0.9	0.7	0.4
33 to 59 percent	1.1	1.0	0.7	0.3
60 percent or more	1.1	1.0	0.8	0.7
Main teaching assignment				
General elementary[2]	0.8	0.8	0.4	0.3
Math/science	0.7	0.7	0.7	0.4
Other targeted academic subject	0.7	0.7	0.6	0.3
Teaching experience				
3 or fewer years	1.8	1.8	0.9	0.3
4 to 9 years	0.9	1.0	0.9	0.6
10 to 19 years	0.9	0.9	0.6	0.4
20 or more years	0.8	0.8	0.5	0.3
Teacher race/ethnicity				
White, non-Hispanic	0.5	0.5	0.4	0.2
Black, non-Hispanic	2.1	1.8	1.1	1.3
Other	2.3	2.0	1.1	0.6
Sex				
Male	0.8	0.8	0.6	0.4
Female	0.5	0.5	0.4	0.2

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, science, or general elementary.

[2] The category labeled general elementary includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Appendix D

Standard Error Tables for Text Tables and Figures

Table of Contents

Standard Error Tables for Text Tables and Figures

Table Page

D-1a Standard errors of the percent of public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1998 7

D-2a Standard errors of the percent of full-time public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1993-94 8

D-3a Standard errors of the percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1998 9

D-4a Standard errors of the percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1993-94 10

D-5a Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998 11

D-6a Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94 .. 12

D-7a Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998 13

D-8a Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94 .. 14

D-9a Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months in various content areas, by teaching experience: 1998 15

D-10a Standard errors of the percent of full-time public school teachers who participated in professional development activities since the end of the school year in various content areas, by teaching experience: 1993-94 16

D-11a Standard errors of the percent of full-time public school teachers indicating the number of hours spent in professional development activities in the last 12 months in various content areas: 1998 17

D-12a Standard errors of the percent of full-time public school teachers indicating the number of hours spent in professional development activities since the end of the last school year in various content areas: 1993-94 18

Table of Contents (continued)

Standard Error Tables for Text Tables and Figures (continued)

Table **Page**

D-13a Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998 19

D-14a Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating that the activity improved their teaching a lot, by teaching experience: 1998 20

D-15a Standard errors of the percent of full-time public school teachers indicating the extent to which participation in professional development activities in various content areas improved their classroom teaching, by the number of hours spent in professional development in that content area in the last 12 months: 1998 21

D-16a Standard errors of the percent of full-time public school teachers who participated in activities related to teaching in the last 12 months, by frequency of participation: 1998 22

D-17a Standard errors of the percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998 23

D-18a Standard errors of the percent of full-time public school teachers indicating the extent to which participation in activities related to teaching improved their classroom teaching, by the frequency with which they participated in that activity in the last 12 months: 1998 24

D-19a Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1998 25

D-20a Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1993-94 26

D-21a Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom: 1998 27

D-22a Standard errors of the percent of full-time public school teachers indicating they feel very well prepared to do various activities in the classroom, by teaching experience: 1998 28

D-23a Standard errors of the comparison of recent teacher participation in professional development in various content areas and perceived teacher preparedness for classroom requirements in those content areas: 1998 29

D-24a Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by the number of hours spent in professional development in the content area of the activity in the last 12 months: 1998 30

Table of Contents (continued)

Standard Error Tables for Text Tables and Figures (continued)

Table		Page
D-25a	Standard errors of the percent of full-time public school teachers indicating they feel very well prepared to do various classroom activities, by whether they participated in various teaching-related activities in the last 12 months: 1998	31
D-26	Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94	32
D-A-2a	Standard errors of the percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1998	39
D-A-3a	Standard errors of the percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1993-94	40

Table D-1a.—Standard errors of the percent of public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1998

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	0.9	0.7	0.8	0.5
School instructional level				
Elementary school	1.5	1.1	1.3	0.9
Middle school	2.2	1.5	1.7	0.8
High school	1.2	1.3	0.7	0.2
Combined	3.4	3.3	1.9	1.5
Teaching experience				
3 or fewer years	2.1	0.8	2.1	0.8
4 to 9 years	2.0	1.5	2.3	0.8
10 to 19 years	1.5	1.5	1.7	1.0
20 or more years	1.6	1.1	1.5	1.1

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-2a.—Standard errors of the percent of full-time public school teachers who majored in various fields of study for a bachelor's or graduate degree, by selected school and teacher characteristics: 1993-94

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	0.5	0.3	0.5	0.3
School instructional level				
Elementary school	0.8	0.5	0.8	0.4
Middle school	1.2	0.9	1.0	0.6
High school	0.6	0.5	0.2	0.1
Combined	0.9	0.7	0.5	0.2
Teaching experience				
3 or fewer years	1.7	1.0	1.7	0.4
4 to 9 years	1.1	0.7	1.1	0.6
10 to 19 years	0.7	0.7	0.9	0.5
20 or more years	0.8	0.6	0.8	0.4

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table D-3a.—Standard errors of the percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1998

Type of teaching certificate	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings: main teaching assignment
Regular or standard state certificate, or advanced professional certificate	0.7	0.5
Provisional or other type of certificate given while participating in an "alternative certification program"	0.4	0.3
Probationary certificate	0.3	0.3
Temporary certificate	0.3	0.2
Emergency certificate or waiver	0.2	0.2
No certificate	•	0.1

•Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

[1] The category labeled general elementary classrooms includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-4a.—*Standard errors of the percent of full-time public school teachers in general elementary classrooms and departmentalized settings with various types of teaching certificates in their state: 1993-94*

Type of teaching certificate	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings: main teaching assignment[2]
Regular or standard state certificate, or advanced professional certificate	0.5	0.4
Provisional or other type of certificate given while participating in an "alternative certification program"	0.2	0.2
Probationary certificate	0.2	0.1
Temporary certificate	0.2	0.1
Emergency certificate or waiver	0.1	0.1
No certificate	0.2	0.3

[1] The category labeled general elementary classrooms includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

[2] The category labeled departmentalized settings includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-5a.—Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	1.4	1.3	1.6	2.1	1.8
Locale					
Central city	3.4	1.5	3.7	4.4	3.8
Urban fringe/town/rural	1.6	1.7	1.9	2.6	1.5
Percent minority enrollment in school					
50 percent or less	1.5	1.4	2.0	2.2	1.7
More than 50 percent	3.7	3.0	3.7	5.6	4.8
Percent of students in school eligible for free or reduced-price school lunch					
Less than 60 percent	1.3	1.3	1.9	2.1	1.8
60 percent or more	5.0	#	4.4	6.4	6.0

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-6a.—Standard errors of the percent of full-time public school teachers in grades 7 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	1.0	0.8	0.9	0.9	1.1
Locale					
Central city	2.1	1.2	1.4	2.2	1.9
Urban fringe/town/rural	1.1	1.0	1.0	1.3	1.3
Percent minority enrollment in school					
50 percent or less	0.9	0.9	1.0	1.2	1.2
More than 50 percent	2.6	1.4	1.8	2.8	2.8
Percent of students in school eligible for free or reduced-price school lunch					
Less than 60 percent	1.0	0.9	1.0	1.2	1.1
60 percent or more	2.9	1.9	3.2	3.8	3.9

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table D-7a.—Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1998

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	1.0	1.5	1.2	2.0	1.4
Locale					
Central city	2.3	*	2.2	4.7	4.6
Urban fringe/town/rural	1.2	2.1	1.6	2.3	1.3
Percent minority enrollment in school					
50 percent or less	1.1	1.7	1.5	2.0	1.4
More than 50 percent	2.5	#	2.3	6.3	3.7
Percent of students in school eligible for free or reduced-price school lunch					
Less than 60 percent	1.0	1.6	1.2	2.0	1.5
60 percent or more	4.0	#	#	8.9	#

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

#Too few cases for a reliable estimate.

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-8a.—Standard errors of the percent of full-time public school teachers in grades 9 through 12 who reported having an undergraduate or graduate major or minor in their main teaching assignment field, by selected school characteristics: 1993-94

School and teacher characteristic	English/ language arts	Foreign language	Social studies/ social science	Mathematics	Science
All targeted public school teachers[1]	0.7	0.7	0.7	0.7	0.6
Locale					
Central city	1.9	1.4	1.1	1.7	1.4
Urban fringe/town/rural	0.7	0.9	0.7	0.8	0.8
Percent minority enrollment in school					
50 percent or less	0.8	0.9	0.8	0.7	0.7
More than 50 percent	1.9	1.7	0.9	2.2	1.7
Percent of students in school eligible for free or reduced-price school lunch					
Less than 60 percent	0.7	0.8	0.7	0.8	0.7
60 percent or more	1.9	1.5	1.6	1.8	1.5

[1] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table D-9a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months in various content areas, by teaching experience: 1998

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
State or district curriculum and performance standards	1.5	1.5	1.3	1.4
Integration of educational technology in the grade or subject you teach	1.8	1.9	1.5	1.3
New methods of teaching (e.g., cooperative learning)	1.3	1.5	1.8	1.4
In-depth study in the subject area of your main teaching assignment	1.8	1.9	1.7	1.6
Student performance assessment	1.5	1.8	1.7	1.6
Classroom management, including student discipline	1.8	1.9	1.9	1.3
Addressing the needs of students with disabilities	1.7	2.6	2.2	1.6
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	2.2	2.2	2.1	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998

Table D-10a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities since the end of the school year in various content areas, by teaching experience: 1993-94

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
Methods of teaching your subject field	1.2	0.9	0.9	0.7
Student assessment	1.3	1.1	1.1	0.6
Cooperative learning in the classroom	1.3	1.1	0.8	0.9
Uses of educational technology for instruction	1.5	1.2	0.9	0.9
In-depth study in your subject field	1.3	0.9	0.9	0.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table D-11a.—Standard errors of the percent of full-time public school teachers indicating the number of hours spent in professional development activities in the last 12 months in various content areas: 1998

Content area	Total hours spent*	
	1 to 8	More than 8
State or district curriculum and performance standards	1.1	1.1
Integration of educational technology in the grade or subject you teach	1.0	1.0
New methods of teaching (e.g., cooperative learning)	1.1	1.1
In-depth study in the subject area of your main teaching assignment	0.8	0.8
Student performance assessment	1.2	1.2
Classroom management, including student discipline	1.2	1.2
Addressing the needs of students with disabilities	0.8	0.8
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	1.5	1.5

*Estimates are based on those who participated in professional development activities in a particular content area.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-12a.—Standard errors of the percent of full-time public school teachers indicating the number of hours spent in professional development activities since the end of the last school year in various content areas: 1993-94

Content area	Total hours spent*	
	1 to 8	More than 8
Methods of teaching your subject field	0.6	0.6
Student assessment	0.7	0.7
Cooperative learning in the classroom	0.7	0.7
Uses of educational technology for instruction	0.6	0.6
In-depth study in your subject field	0.9	0.9

*Estimates are based on those who participated in professional development activities in a particular content area

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table D-13a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998

Content area	Improved classroom teaching			
	A lot	Moderately	Somewhat	Not at all
State or district curriculum and performance standards	0.6	1.1	1.1	0.7
Integration of educational technology in the grade or subject you teach	1.0	1.0	1.0	0.5
New methods of teaching (e.g., cooperative learning)	0.8	1.1	1.0	0.4
In-depth study in the subject area of your main teaching assignment	1.2	1.0	1.0	0.3
Student performance assessment	0.9	1.2	1.0	0.6
Classroom management, including student discipline	1.1	1.2	1.3	0.8
Addressing the needs of students with disabilities	0.9	1.6	1.6	0.6
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	1.4	1.6	1.6	0.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-14a.—Standard errors of the percent of full-time public school teachers who participated in professional development activities in the last 12 months indicating that the activity improved their teaching a lot, by teaching experience: 1998

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
State or district curriculum and performance standards	1.3	1.6	1.5	1.2
Integration of educational technology in the grade or subject you teach	1.8	1.9	1.6	1.8
New methods of teaching (e.g., cooperative learning)	1.7	1.7	2.1	1.5
In-depth study in the subject area of your main teaching assignment	1.9	2.5	2.1	2.0
Student performance assessment	2.0	1.9	1.9	1.6
Classroom management, including student discipline	2.3	2.3	2.4	2.2
Addressing the needs of students with disabilities	2.2	1.8	2.3	1.8
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	2.3	3.1	2.5	2.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-15a.—Standard errors of the percent of full-time public school teachers indicating the extent to which participation in professional development activities in various content areas improved their classroom teaching, by the number of hours spent in professional development in that content area in the last 12 months: 1998

Content area	Improved my teaching			
	A lot	Moderately	Somewhat	Not at all
State or district curriculum and performance standards				
1 to 8 hours	0.6	1.2	1.3	0.8
More than 8 hours	1.3	1.6	1.6	1.1
Integration of educational technology in the grade or subject you teach				
1 to 8 hours	0.8	1.1	1.1	0.8
More than 8 hours	1.8	1.5	1.7	0.5
New methods of teaching (e.g., cooperative learning)				
1 to 8 hours	1.0	1.7	1.5	0.6
More than 8 hours	1.6	1.7	1.4	0.5
In-depth study in the subject area of your main teaching assignment				
1 to 8 hours	1.2	1.5	1.6	0.6
More than 8 hours	1.7	1.4	1.3	0.3
Student performance assessment				
1 to 8 hours	0.8	1.5	1.2	0.8
More than 8 hours	1.8	1.9	2.0	0.7
Classroom management, including student discipline				
1 to 8 hours	1.2	1.3	1.7	0.9
More than 8 hours	2.7	2.3	1.8	1.3
Addressing the needs of students with disabilities				
1 to 8 hours	0.9	2.0	1.8	0.7
More than 8 hours	3.0	3.1	3.0	1.1
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds				
1 to 8 hours	1.0	1.9	2.2	1.2
More than 8 hours	3.5	3.1	2.3	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey oh Professional Development and Training, 1998.

Table D-16a.—Standard errors of the percent of full-time public school teachers who participated in activities related to teaching in the last 12 months, by frequency of participation: 1998

Activity	Frequency of participation*			
	A few times a year	Once a month	2 to 3 times a month	At least once a week
Regularly scheduled collaboration with other teachers	1.1	1.0	0.8	1.1
Common planning period for team teachers	1.0	0.8	1.0	1.4
Networking with teachers outside your school	1.2	0.8	0.8	0.7
Individual or collaborative research on a topic of interest professionally	1.4	1.1	1.1	0.8
Mentoring another teacher in a formal relationship	2.0	1.2	1.7	1.9
Being mentored by another teacher in a formal relationship	2.3	1.2	1.6	1.8

*Estimates are based on those who participated in a particular activity related to teaching.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-17a.—Standard errors of the percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months indicating the extent to which they believe the activity improved their teaching: 1998

Activity	Improved classroom teaching			
	A lot	Moderately	Somewhat	Not at all
Regularly scheduled collaboration with other teachers	0.9	1.0	0.8	0.5
Common planning period for team teachers	1.5	1.1	1.1	0.5
Networking with teachers outside your school	1.2	1.0	1.2	0.4
Individual or collaborative research on a topic of interest professionally	1.2	1.1	1.2	0.3
Mentoring another teacher in a formal relationship	1.6	2.1	1.9	1.1
Being mentored by another teacher in a formal relationship	1.8	1.7	2.0	1.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-18a.—Standard errors of the percent of full-time public school teachers indicating the extent to which participation in activities related to teaching improved their classroom teaching, by the frequency with which they participated in that activity in the last 12 months: 1998

Activity	Improved my teaching			
	A lot	Moderately	Somewhat	Not at all
Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes				
A few times a year	1.8	1.7	2.1	1.4
Once a month	1.9	2.2	2.3	1.1
2 to 3 times a month	2.1	2.5	2.5	0.9
At least once a week	1.8	2.0	1.2	0.6
Common planning period for team teachers				
A few times a year	2.5	3.5	3.4	2.0
Once a month	3.8	4.7	4.1	2.3
2 to 3 times a month	3.5	3.7	3.1	1.2
At least once a week	1.7	1.4	1.2	0.4
Networking with teachers outside your school				
A few times a year	1.1	1.4	1.5	0.5
Once a month	2.8	2.5	2.4	0.9
2 to 3 times a month	3.6	3.5	3.0	0.5
At least once a week	3.7	3.5	2.7	1.5
Individual or collaborative research on a topic of interest to you professionally				
A few times a year	1.7	1.7	2.2	0.4
Once a month	3.3	3.3	3.3	0.6
2 to 3 times a month	2.4	3.1	2.5	1.0
At least once a week	2.6	2.0	2.1	0.3
Mentoring another teacher in a formal relationship				
A few times a year	2.1	3.3	3.7	2.3
Once a month	4.6	4.5	5.1	4.3
2 to 3 times a month	3.5	5.3	4.6	3.0
At least once a week	2.6	3.0	2.8	2.0
Being mentored by another teacher in a formal relationship				
A few times a year	2.1	2.6	3.3	2.2
Once a month	4.3	4.8	3.8	2.0
2 to 3 times a month	4.5	4.0	3.8	*
At least once a week	4.0	3.3	3.0	0.7

*Estimate of standard error is not derived because it is based on a statistic estimated at 0 or 100 percent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-19a.—Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1998

School characteristic	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings
All targeted public school teachers[2]	0.2	0.1
Locale		
Central city	0.2	0.3
Urban fringe/large town	0.3	0.2
Rural/small town	0.3	0.2
Region		
Northeast	0.4	0.3
Midwest	0.3	0.3
South	0.2	0.2
West	0.3	0.4
Percent minority enrollment in school		
5 percent or less	0.4	0.2
6 to 20 percent	0.3	0.2
21 to 50 percent	0.3	0.3
More than 50 percent	0.3	0.3
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	0.3	0.3
15 to 32 percent	0.4	0.3
33 to 59 percent	0.2	0.3
60 percent or more	0.3	0.4

[1] The category labeled general elementary classrooms includes all teachers of self-contained classrooms in the 1998 FRSS study, regardless of instructional level. Almost all (95 percent) of the self-contained classrooms were at the elementary school level.

[2] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-20a.—Standard errors of the average class size for full-time public school teachers in general elementary classrooms and departmentalized settings, by selected school characteristics: 1993-94

School characteristic	Teaching assignment	
	General elementary classrooms[1]	Departmentalized settings[2]
All targeted public school teachers[3]	0.1	0.1
Locale		
Central city	0.2	0.2
Urban fringe/large town	0.2	0.1
Rural/small town	0.1	0.1
Region		
Northeast	0.3	0.2
Midwest	0.2	0.1
South	0.1	0.1
West	0.2	0.2
Percent minority enrollment in school		
5 percent or less		
6 to 20 percent	0.2	0.1
21 to 50 percent	0.2	0.1
More than 50 percent	0.2	0.2
	0.3	0.3
Percent of students in school eligible for free or reduced-price school lunch		
Less than 15 percent	0.2	0.1
15 to 32 percent	0.2	0.1
33 to 59 percent	0.2	0.2
60 percent or more	0.2	0.3

[1] The category labeled general elementary classrooms includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was general elementary.

[2] The category labeled departmentalized settings includes teachers in the 1993-94 SASS study who indicated that their main teaching assignment was in English/language arts, social studies/social sciences, foreign language, mathematics, or science.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

NOTE: Approximately 5 percent of the teachers were excluded from these SASS class size analyses, either because they taught "pull-out" classes, where they provided instruction to students who were released from their regular classes (2 percent), or because of reporting problems in their class size information (3 percent).

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Table D-21a.—Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom: 1998

Activity	How well prepared teachers feel			
	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
Maintain order and discipline in the classroom	0.7	0.7	0.3	0.2
Implement new methods for teaching (e.g., cooperative learning)	0.8	0.8	0.7	0.3
Implement state or district curriculum and performance standards	0.9	1.1	1.0	0.3
Use student performance assessment techniques	1.0	0.9	0.8	0.4
Address the needs of students with disabilities*	0.8	1.1	1.0	0.6
Integrate educational technology into the grade or subject taught	0.8	1.0	1.0	0.5
Address the needs of students with limited English proficiency or from diverse cultural backgrounds*	1.1	1.4	1.0	0.9

*Estimates are based on teachers who teach students with these characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-22a.—Standard errors of the percent of full-time public school teachers indicating they feel very well prepared to do various activities in the classroom, by teaching experience: 1998

Content area	Teaching experience			
	3 or fewer years	4 to 9 years	10 to 19 years	20 or more years
Maintain order and discipline in the classroom	0.7	0.7	0.3	0.2
Implement new methods of teaching (e.g., cooperative learning)	2.0	1.8	1.9	1.8
Implement state or district curriculum and performance standards	1.9	1.7	2.0	1.7
Use student performance assessment techniques	1.7	1.5	1.7	1.5
Address the needs of students with disabilities*	0.8	1.1	1.0	0.6
Integrate educational technology into the grade or subject taught	1.7	1.8	1.9	1.4
Address the needs of students with limited English proficiency or from diverse cultural backgrounds*	1.1	1.4	1.0	0.9

*Estimates are based on teachers who teach students with these characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-23a.—Standard errors of the comparison of recent teacher participation in professional development in various content areas and perceived teacher preparedness for classroom requirements in those content areas: 1998

Activity	Percent of teachers indicating they participated in professional development activities	Percent of all teachers indicating they felt very well prepared for the classroom activity	Of the teachers who participated in professional development, percent indicating they felt very well prepared for the classroom activity
Maintain order and discipline in the classroom	0.9	0.7	1.3
Implement new teaching methods	0.7	0.8	1.0
Implement state or district curriculum and performance standards	0.8	0.9	1.0
Use student performance assessment techniques	0.9	1.0	1.2
Address the needs of students with disabilities	1.1	0.8	1.3
Integrate educational technology into the grade or subject taught	0.8	0.8	0.9
Address the needs of students with limited English proficiency or from diverse cultural backgrounds	1.1	1.1	1.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-24a.—Standard errors of the percent of full-time public school teachers indicating how well prepared they feel to do various activities in the classroom, by the number of hours spent in professional development in the content area of the activity in the last 12 months: 1998

Content area	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
State or district curriculum and performance standards				
0 hours	2.2	2.2	1.8	1.0
1 to 8 hours	1.2	1.4	1.4	0.5
More than 8 hours	1.9	1.9	1.5	0.3
Integration of educational technology into the grade or subject taught				
0 hours	1.1	1.4	2.0	1.7
1 to 8 hours	0.8	1.3	1.2	0.6
More than 8 hours	1.9	1.9	1.6	0.5
New methods of teaching (e.g., cooperative learning)				
0 hours	1.7	1.9	1.5	0.9
1 to 8 hours	1.3	1.3	1.0	0.3
More than 8 hours	1.7	1.6	0.9	0.1
Student performance assessment				
0 hours	1.2	1.4	1.4	1.1
1 to 8 hours	1.1	1.4	1.2	0.4
More than 8 hours	2.3	1.9	1.3	0.6
Classroom management, including student discipline				
0 hours	1.2	1.1	0.5	0.2
1 to 8 hours	1.4	1.3	0.6	0.3
More than 8 hours	2.8	2.5	1.0	0.3
Addressing the needs of students with disabilities[1]				
0 hours	1.0	1.8	1.4	1.1
1 to 8 hours	1.4	1.7	1.3	0.8
More than 8 hours	3.6	3.0	2.6	0.9
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds[1]				
0 hours	1.1	1.8	1.5	1.6
1 to 8 hours	1.8	2.2	1.9	1.0
More than 8 hours	3.5	3.1	2.4	0.6

[1] Estimates are based on teachers who teach students with these characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-25a.—Standard errors of the percent of full-time public school teachers indicating they feel very well prepared to do various classroom activities, by whether they participated in various teaching-related activities in the last 12 months: 1998

Whether teacher participated in the activity	Feel very well prepared to:						
	Maintain order and discipline in the classroom	Implement new methods of teaching	Implement state or district curriculum and performance standards	Use student performance assessment techniques	Address the needs of students with disabilities[1]	Integrate educational technology into the grade or subject taught	Address the needs of students with limited English proficiency or from diverse cultural backgrounds[1]
Common planning period for team teachers							
Yes	1.1	1.2	1.2	1.2	1.1	1.1	1.3
No	1.4	1.5	1.5	1.5	1.5	1.1	1.9
Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes							
Yes	0.9	1.0	0.9	1.0	1.0	1.0	1.2
No	1.9	1.8	1.8	2.0	1.7	1.4	2.2
Being mentored by another teacher in a formal relationship							
Yes	1.9	1.9	2.1	1.7	1.6	1.5	1.7
No	0.9	1.0	1.0	1.1	0.9	0.8	1.2
Mentoring another teacher in a formal relationship							
Yes	1.5	1.9	1.7	2.2	2.1	1.8	2.0
No	0.8	0.9	0.9	1.1	0.8	0.9	1.1
Networking with teachers outside your school							
Yes	1.0	1.3	1.0	1.3	1.0	1.1	1.4
No	1.2	1.4	1.3	1.5	1.2	1.2	1.6
Individual or collaborative research on a topic of interest to you professionally							
Yes	1.1	1.2	1.0	1.2	1.3	1.3	1.5
No	1.3	1.2	1.3	1.3	1.2	1.0	1.7

[1] Estimates are based on teachers who teach students with these characteristics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-26.—Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94

Item	Estimate	Standard error
Figure 1: Percent of full-time public school teachers who hold master's degree, by selected school and teacher characteristics		
School level: elementary school	40	1.8
School level: middle school	46	1.9
School level: high school	55	1.5
School level: combined	49	3.7
Teaching experience: less than 3 years	16	1.6
Teaching experience: 4 to 9 years	31	2.3
Teaching experience: 10 to 19 years	48	1.8
Teaching experience: 20 or more years	62	1.5
Free or reduced-price lunch: less than 15 percent	57	1.8
Free or reduced-price lunch: 15 to 32 percent	46	2.0
Free or reduced-price lunch: 33 to 59 percent	41	2.4
Free or reduced-price lunch: 60 percent or more	37	2.3
Region: Northeast	60	2.8
Region: Midwest	51	2.0
Region: South	39	1.6
Region: West	38	2.0
Figure 2: Percent of full-time public school teachers who hold master's degree, by selected school and teacher characteristics: 1993-94		
School level: elementary school	42	0.7
School level: middle school	46	1.4
School level: high school	55	0.7
School level: combined	47	0.8
Teaching experience: less than 3 years	15	1.0
Teaching experience: 4 to 9 years	30	1.1
Teaching experience: 10 to 19 years	49	1.1
Teaching experience: 20 or more years	61	0.9
Free or reduced-price lunch: less than 15 percent	53	1.0
Free or reduced-price lunch: 15 to 32 percent	46	0.9
Free or reduced-price lunch: 33 to 59 percent	41	1.0
Free or reduced-price lunch: 60 percent or more	41	1.2
Region: Northeast	60	1.1
Region: Midwest	47	1.2
Region: South	42	0.7
Region: West	37	1.2
Figure 3: Percent of full-time public school teachers in general elementary classrooms and departmentalized settings with a regular or standard state certificate or advanced professional certificate, by teaching experience		
General elementary classrooms: 3 or fewer years	65	3.1
General elementary classrooms: 4 to 9 years	92	1.6
General elementary classrooms: 10 to 19 years	99	0.6
General elementary classrooms: 20 or more years	99	0.5
Departmentalized setting: Main teaching assignment: 3 or fewer years	64	2.3
Departmentalized setting: Main teaching assignment: 4 to 9 years	89	1.5
Departmentalized setting: Main teaching assignment: 10 to 19 years	97	0.7
Departmentalized setting: Main teaching assignment: 20 or more years	99	0.4

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Table D-26.—Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94 (continued)

Item	Estimate	Standard error
Figure 4: Percent of full-time classroom and departmentalized teachers in public schools with a regular or standard state certificate or advanced professional certificate, by teaching experience: 1993-94		
General elementary classrooms: 3 or fewer years	73	2.8
General elementary classrooms: 4 to 9 years	92	0.9
General elementary classrooms: 10 to 19 years	97	0.6
Self-contained: 20 or more years	99	0.4
Departmentalized setting: Main teaching assignment: 3 or fewer years	66	1.5
Departmentalized setting: Main teaching assignment: 4 to 9 years	86	1.2
Departmentalized setting: Main teaching assignment: 10 to 19 years	94	0.6
Departmentalized setting: Main teaching assignment: 20 or more years	96	0.4
Figure 5: Percent of full-time public school teachers who participated in professional development activities in the last 12 months that focused on various topics: 1998		
State or district curriculum and performance standards	81	0.8
Integration of educational technology in the grade or subject you teach	78	0.8
New methods of teaching (e.g., cooperative learning)	77	0.7
In-depth study in the subject area of your main teaching assignment	73	0.8
Student performance assessment	67	0.9
Classroom management, including student discipline	49	0.9
Addressing the needs of students with disabilities	48	1.1
Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	31	1.1
Figure 6: Percent of full-time public school teachers who participated in professional development activities since the end of the last school year that focused on various topics: 1993-94		
Methods of teaching your subject field	67	0.4
Student assessment	55	0.5
Cooperative learning in the classroom	53	0.5
Uses of educational technology for instruction	51	0.6
In-depth study in your subject field	29	0.4
Figure 7: Percent of full-time public school teachers who participated in professional development activities in the last 12 months that addressed the needs of students with limited English proficiency or from diverse cultural backgrounds, by percent of minority enrollment in the school: 1998		
Percent minority enrollment: 5 percent or less	14	1.5
Percent minority enrollment: 6 to 20 percent	29	1.9
Percent minority enrollment: 21 to 50 percent	34	2.0
Percent minority enrollment: more than 50 percent	51	2.5
Figure 8: Percent of full-time public school teachers who participated in professional development activities in the last 12 months that addressed the needs of students with limited English proficiency or from diverse cultural backgrounds, by region: 1998		
Northeast	22	2.2
Midwest	22	1.9
South	33	1.7
West	51	2.4

Table D-26.—Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94 (continued)

Item	Estimate	Standard error
Figure 9: Percent of full-time public school teachers who participated in various activities related to teaching in the last 12 months: 1998		
Regularly scheduled collaboration with other teachers	81	0.9
Common planning period for team teachers	62	0.9
Networking with teachers outside the school	61	0.9
Individual or collaborative research	53	0.9
Mentoring another teacher in a formal relationship	26	0.8
Being mentored by another teacher in a formal relationship	19	0.6
Figure 10: Percent of full-time public school teachers who participated in mentoring activities in the last 12 months, by teaching experience: 1998		
Being mentored by another teacher in a formal relationship: 3 or fewer years	58	1.8
Being mentored by another teacher in a formal relationship: 4 to 9 years	21	1.7
Being mentored by another teacher in a formal relationship: 10 to 19 years	12	1.4
Being mentored by another teacher in a formal relationship: 20 or more years	9	0.8
Mentoring another teacher in a formal relationship: 3 or fewer years	12	1.3
Mentoring another teacher in a formal relationship: 4 to 9 years	25	2.0
Mentoring another teacher in a formal relationship: 10 to 19 years	32	1.8
Mentoring another teacher in a formal relationship: 20 or more years	27	1.2
Figure 11: Percent of full-time public school teachers indicating the extent to which being mentored improved their classroom teaching, by teaching experience: 1998		
Improved a lot: 3 or fewer years	45	2.4
Improved a lot: 4 to 9 years	31	4.4
Improved a lot: 10 to 19 years	32	4.5
Improved a lot: 20 or more years	18	4.3
Improved moderately: 3 or fewer years	26	1.9
Improved moderately: 4 to 9 years	26	3.6
Improved moderately: 10 to 19 years	28	4.8
Improved moderately: 20 or more years	27	5.2
Improved somewhat: 3 or fewer years	25	2.2
Improved somewhat: 4 to 9 years	36	4.6
Improved somewhat: 10 to 19 years	35	5.0
Improved somewhat: 20 or more years	39	5.1
Improved not at all: 3 or fewer years	5	1.0
Improved not at all: 4 to 9 years	8	1.8
Improved not at all: 10 to 19 years	5	2.8
Improved not at all: 20 or more years	15	4.3
Figure 12: Percent of full-time public school teachers who participated in a formal induction program when they first began teaching, by teaching experience: 1998		
3 or fewer years	65	1.9
4 to 9 years	55	2.1
10 to 19 years	28	1.7
20 or more years	14	1.1
Figure 13: Percent of public school teachers who participated in a formal induction program during their first year of teaching, by teaching experience: 1993-94		
3 or fewer years	59	1.5
4 to 9 years	47	1.4
10 to 19 years	17	0.7
20 or more years	16	0.6

Table D-26.—Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94 (continued)

Item	Estimate	Standard error
Figure 14: Percent of full-time public school teachers indicating the length of the formal induction program in which they participated when they first began teaching: 1998		
Length of program: 3 months or less	12	1.0
Length of program: more than 3 to 8 months	10	0.9
Length of program: 9 months to 1 year	66	1.5
Length of program: more than a year	12	1.0
Figure 15: Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers: 1998		
Other teachers share ideas that are helpful to me in my work: strongly agree	63	0.9
Other teachers share ideas that are helpful to me in my work: somewhat agree	33	0.9
Other teachers share ideas that are helpful to me in my work: somewhat disagree	4	0.3
Other teachers share ideas that are helpful to me in my work: strongly disagree	1	0.1
The school administration supports me in my work: strongly agree	55	1.1
The school administration supports me in my work: somewhat agree	36	1.0
The school administration supports me in my work: somewhat disagree	7	0.5
The school administration supports me in my work: strongly disagree	2	0.3
School goals and priorities are clear: strongly agree	47	1.1
School goals and priorities are clear: somewhat agree	38	1.0
School goals and priorities are clear: somewhat disagree	11	0.6
School goals and priorities are clear: strongly disagree	4	0.4
Parents support me in my efforts to educate their children: strongly agree	32	1.1
Parents support me in my efforts to educate their children: somewhat agree	54	1.1
Parents support me in my efforts to educate their children: somewhat disagree	11	0.6
Parents support me in my efforts to educate their children: strongly disagree	3	0.3
Figure 16: Percent of full-time public school teachers agreeing or disagreeing with selected statements about parent and school support for teachers: 1993-94		
The school administration behavior toward the staff is supportive and encouraging: strongly agree	41	0.5
The school administration behavior toward the staff is supportive and encouraging: somewhat agree	38	0.5
The school administration behavior toward the staff is supportive and encouraging: somewhat disagree	14	0.3
The school administration behavior toward the staff is supportive and encouraging: strongly disagree	7	0.3
Goals and priorities for the school are clear: strongly agree	37	0.5
Goals and priorities for the school are clear: somewhat agree	45	0.4
Goals and priorities for the school are clear: somewhat disagree	14	0.4
Goals and priorities for the school are clear: strongly disagree	4	0.2
I receive a great deal of support from parents for the work I do: strongly agree	11	0.3
I receive a great deal of support from parents for the work I do: somewhat agree	42	0.5
I receive a great deal of support from parents for the work I do: somewhat disagree	30	0.4
I receive a great deal of support from parents for the work I do: strongly disagree	17	0.4

Table D-26.—Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94 (continued)

Item	Estimate	Standard error
Figure 17: Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by school instructional level: 1998		
Other teachers share ideas that are helpful to me in my work: elementary school	69	1.5
Other teachers share ideas that are helpful to me in my work: middle school	60	1.8
Other teachers share ideas that are helpful to me in my work: high school	53	1.5
Other teachers share ideas that are helpful to me in my work: combined school	49	3.8
The school administration supports me in my work: elementary school	56	1.9
The school administration supports me in my work: middle school	59	1.6
The school administration supports me in my work: high school	49	1.7
The school administration supports me in my work: combined school	48	3.8
Goals and priorities for the school are clear: elementary school	52	1.7
Goals and priorities for the school are clear: middle school	48	1.5
Goals and priorities for the school are clear: high school	37	1.6
Goals and priorities for the school are clear: combined	32	3.6
Parents support me in my efforts to educate their children: elementary school	36	1.7
Parents support me in my efforts to educate their children: middle school	30	1.6
Parents support me in my efforts to educate their children: high school	24	1.4
Parents support me in my efforts to educate their children: combined	25	3.3
Figure 18: Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by school instructional level: 1993-94		
The school administrations' behavior toward the staff is supportive and encouraging: elementary school	44	0.8
The school administrations' behavior toward the staff is supportive and encouraging: middle school	41	1.3
The school administrations' behavior toward the staff is supportive and encouraging: high school	33	0.6
The school administrations' behavior toward the staff is supportive and encouraging: combined	36	0.9
Goals and priorities for the school are clear: elementary school	44	0.7
Goals and priorities for the school are clear: middle school	35	1.3
Goals and priorities for the school are clear: high school	27	0.6
Goals and priorities for the school are clear: combined	27	1.0
I receive a great deal of support from parents for the work I do: elementary school	15	0.6
I receive a great deal of support from parents for the work I do: middle school	8	0.7
I receive a great deal of support from parents for the work I do: high school	6	0.3
I receive a great deal of support from parents for the work I do: combined	7	0.4
Figure 19: Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by teaching experience: 1998		
Other teachers share ideas that are helpful to me in my work: 3 or fewer years	67	1.6
Other teachers share ideas that are helpful to me in my work: 4 to 9 years	66	1.6
Other teachers share ideas that are helpful to me in my work: 10 to 19 years	62	1.9
Other teachers share ideas that are helpful to me in my work: 20 or more years	60	1.4
The school administration supports me in my work: 3 or fewer years	60	2.6
The school administration supports me in my work: 4 to 9 years	56	2.0
The school administration supports me in my work: 10 to 19 years	53	2.1
The school administration supports me in my work: 20 or more years	52	1.4
Goals and priorities for the school are clear: 3 or fewer years	46	2.8
Goals and priorities for the school are clear: 4 to 9 years	46	2.0
Goals and priorities for the school are clear: 10 to 19 years	48	2.0
Goals and priorities for the school are clear: 20 or more years	48	1.6
Parents support me in my efforts to educate their children: 3 or fewer years	26	1.7
Parents support me in my efforts to educate their children: 4 to 9 years	32	2.1
Parents support me in my efforts to educate their children: 10 to 19 years	32	2.0
Parents support me in my efforts to educate their children: 20 or more years	33	1.6

Table D-26.—Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94 (continued)

Item	Estimate	Standard error
Figure 20: Percent of full-time public school teachers who strongly agreed with selected statements about parent and school support for teachers, by teaching experience: 1993-94		
The school administrations' behavior toward the staff is supportive and encouraging: 3 or fewer years	48	1.5
The school administrations' behavior toward the staff is supportive and encouraging: 4 to 9 years	40	1.0
The school administrations' behavior toward the staff is supportive and encouraging: 10 to 19 years	41	0.8
The school administrations' behavior toward the staff is supportive and encouraging: 20 or more years	38	0.9
Goals and priorities for the school are clear: 3 or fewer years	37	1.8
Goals and priorities for the school are clear: 4 to 9 years	35	0.9
Goals and priorities for the school are clear: 10 to 19 years	40	0.9
Goals and priorities for the school are clear: 20 or more years	37	0.8
I receive a great deal of support from parents for the work I do: 3 or fewer years	10	1.0
I receive a great deal of support from parents for the work I do: 4 to 9 years	10	0.7
I receive a great deal of support from parents for the work I do: 10 to 19 years	11	0.7
I receive a great deal of support from parents for the work I do: 20 or more years	12	0.5
Figure 21: Percent of full-time public school teachers agreeing or disagreeing that parents support them in their efforts to educate their children, by percent of students in school eligible for free or reduced-price school lunch: 1998		
Less than 15 percent: strongly agree	41	1.9
Less than 15 percent: somewhat agree	53	2.0
Less than 15 percent: somewhat disagree	5	0.5
Less than 15 percent: strongly disagree	1	0.4
15 to 32 percent: strongly agree	34	2.0
15 to 32 percent: somewhat agree	56	1.8
15 to 32 percent: somewhat disagree	9	1.0
15 to 32 percent: strongly disagree	1	0.4
33 to 59 percent: strongly agree	29	2.2
33 to 59 percent: somewhat agree	57	2.1
33 to 59 percent: somewhat disagree	11	1.2
33 to 59 percent: strongly disagree	3	0.8
60 percent or more: strongly agree	23	1.8
60 percent or more: somewhat agree	53	2.2
60 percent or more: somewhat disagree	17	1.7
60 percent or more: strongly disagree	7	0.9
Figure 22: Percent of full-time public school teachers agreeing or disagreeing that they receive a great deal of support from parents for the work they do, by percent of students in school eligible for free or reduced-price school lunch: 1993-94		
Less than 15 percent: strongly agree	15	0.7
Less than 15 percent: somewhat agree	48	0.9
Less than 15 percent: somewhat disagree	27	0.9
Less than 15 percent: strongly disagree	11	0.6
15 to 32 percent: strongly agree	11	0.6
15 to 32 percent: somewhat agree	44	0.9
15 to 32 percent: somewhat disagree	30	0.7
15 to 32 percent: strongly disagree	16	0.7
33 to 59 percent: strongly agree	9	0.7
33 to 59 percent: somewhat agree	41	1.1
33 to 59 percent: somewhat disagree	31	1.0
33 to 59 percent: strongly disagree	19	0.8
60 percent or more: strongly agree	10	0.6
60 percent or more: somewhat agree	33	1.2
60 percent or more: somewhat disagree	33	1.0
60 percent or more: strongly disagree	25	1.1

Table D-26.—Standard errors for the figures and for data not shown in tables: FRSS 1998 and SASS 1993-94 (continued)

Item	Estimate	Standard error
Figure 23: Percent of full-time public school teachers indicating they feel very well or moderately well prepared to address the needs of students with limited English proficiency or from diverse cultural backgrounds, by percent minority enrollment in the school: 1998		
5 percent or less: very well prepared	10	2.0
5 percent or less: moderately well prepared	25	2.9
6 to 20 percent: very well prepared	15	1.9
6 to 20 percent: moderately well prepared	33	2.6
21 to 50 percent: very well prepared	20	1.9
21 to 50 percent: moderately well prepared	34	2.5
More than 50 percent: very well prepared	27	2.4
More than 50 percent: moderately well prepared	37	2.4
Figure 24: Percent of full-time public school teachers indicating they feel very well prepared to do various classroom activities, by whether they participated in professional development activities in the last 12 months that focused on these content areas: 1998		
Maintain order/discipline in the classroom: participated	68	1.3
Maintain order/discipline in the classroom: did not participate	74	1.3
New methods of teaching: participated	43	1.0
New methods of teaching: did not participate	34	1.7
State/district curriculum and performance standards: participated	38	1.0
State/district curriculum and performance standards: did not participate	20	2.3
Student performance assessment: participated	33	1.2
Student performance assessment: did not participate	20	1.2
Addressing the needs of students with disabilities: participated	25	1.3
Addressing the needs of students with disabilities: did not participate	17	1.0
Integration of educational technology: participated	23	0.9
Integration of educational technology: did not participate	11	1.1
Addressing the needs of limited English students: participated	28	1.8
Addressing the needs of limited English students: did not participate	14	1.1
Chapter 2, section on teacher certification		
Percent of teachers in 1998 with 3 or fewer years of teaching experience that had emergency or temporary certification	12	2.3
Percent of teachers in 1998 with 10 or more years of teaching experience that had emergency or temporary certification	0.1	0.1
Chapter 3, section on formal professional development		
Percent of teachers in 1998 that had participated in professional development programs in at least one of the listed content areas	99	0.2
Percent of teachers in 1993-94 that had participated in professional development programs in at least one of the listed content areas	90	0.3
Chapter 3, section on participation in collaborative activities		
Percent of teachers in 1998 that had participated in at least one of the listed collaborative activities	95	0.4
Chapter 5, section on teachers' preparedness for classroom requirements		
Percent of teachers in 1998 that taught limited English proficient or culturally diverse students	54	1.3
Percent of teachers in 1998 that taught students with disabilities	71	0.9

Table D-A-2a.—Standard errors of the percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1998

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	0.9	0.7	0.9	0.6
School instructional level				
Elementary school	1.5	1.2	1.2	1.0
Middle school	2.2	1.6	2.3	1.1
High school	1.3	1.5	1.2	1.1
Combined	3.4	3.0	3.8	2.4
Teaching experience				
3 or fewer years	2.1	1.2	2.2	1.1
4 to 9 years	2.0	1.8	2.2	1.2
10 to 19 years	1.5	1.8	1.7	1.3
20 or more years	1.6	1.0	1.5	1.3

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, or science, or who taught a self-contained classroom.

NOTE: Estimates are duplicated. That is, teachers with more than one major or more than one degree are counted for each field of study in which they have a major or degree.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Professional Development and Training, 1998.

Table D-A-3a.—Standard errors of the percent of full-time public school teachers with any undergraduate or graduate major in various fields of study, by selected school and teacher characteristics: 1993-94

School characteristic	Academic field	Subject area education[1]	General education	Other education[2]
All targeted public school teachers[3]	0.5	0.4	0.5	0.3
School instructional level				
Elementary school	0.8	0.6	0.6	0.5
Middle school	1.2	1.1	1.4	1.0
High school	0.6	0.5	0.5	0.4
Combined	0.9	0.7	0.6	0.6
Teaching experience				
3 or fewer years	1.7	0.9	1.7	0.5
4 to 9 years	1.1	0.8	1.1	0.7
10 to 19 years	0.7	0.8	0.8	0.6
20 or more years	0.8	0.7	0.6	0.5

[1] Subject area education is the teaching of an academic field, such as mathematics education.

[2] Examples of other education fields are special education, curriculum and instruction, and educational administration.

[3] Targeted public school teachers were full-time public school teachers in grades 1 through 12 whose main teaching assignment was in English/language arts, social studies/social sciences, foreign languages, mathematics, science, or general elementary.

NOTE: Estimates are duplicated. That is, teachers with more than one major or more than one degree are counted for each field of study in which they have a major or degree.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993-94 Schools and Staffing Survey, unpublished tabulations, 1998.

Appendix E

1998 Teacher Survey on Professional Development and Training Fast Response Survey System Questionnaire

U.S. DEPARTMENT OF EDUCATION
NATIONAL CENTER FOR EDUCATION STATISTICS
WASHINGTON, D.C. 20208-5651

FORM APPROVED
O.M.B. No.: 1850-0733
EXPIRATION DATE: 07/99

TEACHER SURVEY ON PROFESSIONAL DEVELOPMENT AND TRAINING

FAST RESPONSE SURVEY SYSTEM

This information collection is authorized by law (P.L. 103-382). While participation in this collection is voluntary, your cooperation is critical to make the results comprehensive, accurate, and timely.

IF ABOVE INFORMATION IS INCORRECT, PLEASE UPDATE DIRECTLY ON LABEL.

Name:

Telephone:

E-mail:

Best days and times to contact you:

THANK YOU. PLEASE KEEP A COPY OF THIS QUESTIONNAIRE FOR YOUR RECORDS.

RETURN COMPLETED FORM TO:

WESTAT, INC.
1650 Research Boulevard
Rockville, Maryland 20850
ATTN: Lewis, 900282

IF YOU HAVE ANY QUESTIONS, CALL:

Laurie Lewis at Westat
800-937-8281, Ext. 8284 or 301-251-8284
Fax: 800-254-0984
E-mail: lewisl1@westat.com

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 1850-0733. The time required to complete this information collection is estimated to average 15 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate or suggestions for improving this form, please write to: U.S. Department of Education, Washington, DC 20202-4651. If you have any comments or concerns regarding the status of your individual submission of this form, write directly to: National Center for Education Statistics, 555 New Jersey Avenue, NW, Washington, DC 20208.

FRSS Form No. 65, 02/98

CODES FOR TYPE OF TEACHING CERTIFICATE (FOR QUESTIONS 3 AND 4)

31 Regular or standard state certificate, or advanced professional certificate

32 Provisional or other type of certificate given to persons who are still participating in what the state calls an "alternative certification program"

33 Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period)

34 Temporary certificate (requires some additional college coursework and/or student teaching before regular certification can be obtained)

35 Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching)

36 No certificate

CODES FOR TEACHING ASSIGNMENT FIELD (FOR QUESTION 4)

41 **English/language arts** (reading, writing, composition, journalism, literature, other English/language arts)

42 **Foreign languages** (French, German, Latin, Spanish, other foreign language)

43 **Mathematics** (general mathematics, algebra, geometry, trigonometry, calculus, other mathematics)

44 **Science** (general science, biology/life science, chemistry, physics, geology/earth science, other physical or natural science)

45 **Social studies/social science** (social studies, history, world civilization, political science/government, civics, geography, economics, sociology, psychology, other social science)

46 **All other fields** (please specify the field)

CODES FOR MAJOR AND MINOR FIELD OF STUDY (FOR QUESTION 5)

EDUCATION FIELDS

General Education
51 Pre-elementary/early childhood education
52 Elementary education
53 Secondary education

Subject Area Education
54 English education, reading education
55 Foreign languages education
56 Mathematics education
57 Science education
58 Social studies/social sciences education
59 Other subject area education

Other Education
61 Special education
62 Curriculum and instruction
63 Educational administration
64 Other education

GENERAL FIELDS

71 **Engineering**
72 **English** (English/language arts, literature, speech, classics, communications and journalism)
73 **Foreign languages**
74 **Mathematics**
75 **Science** (biology/life science, chemistry, geology/earth science, physics, other physical or natural science)
76 **Social sciences** (history, political science/government, geography, economics,sociology, psychology, public affairs and services, other social science, ethnic/area studies)
77 **All other fields** *(please specify the field)*

1. Which one of the following best describes your **main** teaching assignment at this school? *(Circle only one number.)*

Teach a self-contained classroom (i.e., you teach all or most academic subjects to the same group of students all or most of the day) .... 1 → *(Go to question 2.)*

Teach math, science, English/language arts, social studies, or foreign language in a departmentalized setting (i.e., you teach one of these subjects to several classes of different students all or most of the day) .... 2 → *(Go to question 4.)*

Other teaching assignment .... 3 → *(Stop. Call Westat at 800-937-8281, ext. 8284, for instructions.)*

FOR TEACHERS OF SELF-CONTAINED CLASSROOMS: Answer questions 2 and 3, and then go to question 5.

2. How many students are enrolled in your self-contained class? ___________

3. Do you have a general elementary or secondary education teaching certificate in this state? *If yes, enter the code for the type of teaching certificate, using the list provided with this questionnaire.*

Yes ...... 1 (Enter code from list for type of teaching certificate: ☐) No 2

FOR TEACHERS IN DEPARTMENTALIZED SETTINGS

4. For each different field you are assigned to teach at this school, write in the code for the teaching assignment field, the number of classes or sections in that field you teach, and the number of students you teach in that field. Then, for each teaching assignment field, write in the code for the type of teaching certificate, if any, you have in that field in this state. See the lists provided with this questionnaire for the codes for teaching assignment field and type of teaching certificate.

Write in information for your main teaching assignment field at this school first, that is, the field in which you teach the most classes. Next write in information about your secondary teaching assignment field, that is, the field in which you teach the second most classes, followed by information for any other teaching assignments you may have at this school. If your teaching schedule is divided equally between two fields, record either field as your main assignment.

Teaching assignment at this school	Code for teaching assignment field	Number of classes or sections taught in field	Total number of students taught in field	Code for type of teaching certificate in this field in this state
Main (i.e., the field in which you teach the most classes)				
Secondary (i.e., the field in which you teach the second most classes)				
Other teaching assignments				

5. Please check the box(es) next to the degrees you hold, and write in the codes for your major and minor fields of study for each degree, using the list provided with this questionnaire. If you completed more than one degree at a level or had a double major or minor, please provide information for all fields of study at that degree level.

Degree	Code(s) for major(s)	Code(s) for minor(s)
Bachelor's degree(s) ☐		
Master's degree(s) ☐		
Doctorate degree(s) ☐		
Other degree(s) ☐ *(specify:)*______________		

6. Considering all of the professional development activities in which you participated in the last 12 months (excluding preservice training), how many total hours, if any, have you spent in activities in which the following content areas were a major focus? For any content area that was a major focus of professional development activities, indicate to what extent you believe it has improved your classroom teaching.

Content area	**Total hours spent**				**Improved my teaching**			
	0	**1-8**	**9-32**	**More than 32**	**A lot**	**Moder-ately**	**Some-what**	**Not at all**
a. In-depth study in the subject area of your main teaching assignment	1	2	3	4	1	2	3	4
b. New methods of teaching (e.g., cooperative learning)	1	2	3	4	1	2	3	4
c. State or district curriculum and performance standards	1	2	3	4	1	2	3	4
d. Integration of educational technology in the grade or subject you teach	1	2	3	4	1	2	3	4
e. Student performance assessment (e.g., methods of testing, applying results to modify instruction)	1	2	3	4	1	2	3	4
f. Classroom management, including student discipline	1	2	3	4	1	2	3	4
g. Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds	1	2	3	4	1	2	3	4
h. Addressing the needs of students with disabilities	1	2	3	4	1	2	3	4
i. Other (*please describe*)____________________	1	2	3	4	1	2	3	4

7. In the last 12 months, how frequently have you participated in the following activities related to teaching? For any activity in which you participated, indicate to what extent you believe the activity has improved your classroom teaching. Exclude any activities you participated in during preservice training.

Activity	**Frequency of activities**					**Improved my teaching**			
	Never	**At least once a week**	**2 to 3 times a month**	**Once a month**	**A few times a year**	**A lot**	**Moder-ately**	**Some-what**	**Not at all**
a. Common planning period for team teachers	1	2	3	4	5	1	2	3	4
b. Regularly scheduled collaboration with other teachers, excluding meetings held for administrative purposes	1	2	3	4	5	1	2	3	4
c. Being mentored by another teacher in a formal relationship	1	2	3	4	5	1	2	3	4
d. Mentoring another teacher in a formal relationship	1	2	3	4	5	1	2	3	4
e. Networking with teachers outside your school	1	2	3	4	5	1	2	3	4
f. Individual or collaborative research on a topic of interest to you professionally	1	2	3	4	5	1	2	3	4
g. Other (*please describe*)______________	1	2	3	4	5	1	2	3	4

8. How well prepared do you feel to do the following activities in your classroom? *(Circle one number on each line.)*

	Very well prepared	Moderately well prepared	Somewhat well prepared	Not at all prepared
a. Implement new methods of teaching (e.g., cooperative learning)	1	2	3	4
b. Implement state or district curriculum and performance standards	1	2	3	4
c. Integrate educational technology into the grade or subject taught	1	2	3	4
d. Use student performance assessment techniques (e.g., methods of testing, applying results to modify instruction)	1	2	3	4
e. Maintain order and discipline in the classroom	1	2	3	4
f. Address the needs of students with limited English proficiency or from diverse cultural backgrounds *(If you teach no students with these characteristics, check the box and go to item g.)* ☐	1	2	3	4
g. Address the needs of students with disabilities *(If you teach no students with disabilities, check the box and go to question 9.)* ☐	1	2	3	4

9. When you first began teaching, did you participate in a formal teacher induction program (for example, a program to help beginning teachers by assigning them to master or mentor teachers)? *Do not include student teaching.*

Yes .... 1 *(Length of program:________________________)* No............. 2

10. Do you agree or disagree with each of the following statements? *(Circle one number on each line.)*

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. Parents support me in my efforts to educate their children	1	2	3	4
b. The school administration supports me in my work	1	2	3	4
c. Other teachers share ideas that are helpful to me in my teaching	1	2	3	4
d. Goals and priorities for the school are clear	1	2	3	4

11. What is your sex?

Male........... 1 Female.......... 2

12. Are you of Hispanic or Latino origin?

Yes .... 1 No................ 2

13. What is your race? *(Circle one or more to describe yourself.)*

American Indian or Alaska Native	1
Asian	2
Black or African American	3
Native Hawaiian or Other Pacific Islander	4
White	5

14. Including this school year, how many years have you been employed as a teacher? _____ At this school? _____
(Include years spent teaching both full and part time, and in both public and private schools.)

15. What grades do you currently teach at this school? *(Circle all that apply.)*

PK K 1 2 3 4 5 6 7 8 9 10 11 12

Appendix F

Selected Questionnaire Items from the 1993-94 Schools and Staffing Survey Teacher Questionnaire

OMB No. 1850-0598: Approval Expires 12/31/94

NOTICE – This report is authorized by law (20 U.S. Code 1221e). Your answers will be kept confidential and will be used only for statistical purposes.

FORM **SASS-4A**
(11-4-93)

U.S. Department of Education
National Center for Education Statistics

PUBLIC SCHOOL TEACHER QUESTIONNAIRE

SCHOOLS AND STAFFING SURVEY

1993–94 SCHOOL YEAR

Conducted by:

U.S. Department of Commerce
Bureau of the Census

SASS

THIS SURVEY HAS BEEN ENDORSED BY:

American Association of School Administrators
American Counseling Association
American Federation of Teachers
Council of Chief State School Officers
Council of the Great City Schools
National Association of Elementary School Principals
National Association of Secondary School Principals
National Center for Improving Science Education
National Education Association
National Science Foundation

SECTION B – TEACHING EXPERIENCE – CONTINUED

9a. Have you ever worked as an elementary or secondary teacher in a PRIVATE SCHOOL?

0090 1☐ Yes
2☐ No

GO to Item 10a.

b. How many years did you teach FULL-TIME in private schools?

Record whole years, not fractions or months. If less than 4 months, mark "None".

0095 0☐ None or ________ Years

c. How many years did you teach PART-TIME in private schools?

Record whole years, not fractions or months. If less than 4 months, mark "None."

0100 0☐ None or ________ Years

10a. How many years have you worked as a FULL-TIME elementary or secondary teacher in PUBLIC schools?

Include the current school year if you are a full-time teacher this year.

Record whole years, not fractions or months. If less than 4 months, mark "None."

0105 0☐ None or ________ Years

b. How many years have you worked as a PART-TIME elementary or secondary teacher in PUBLIC schools?

Include this school year if you are a part-time teacher this year.

Record whole years, not fractions or months. If less than 4 months, mark "None."

0110 0☐ None or ________ Years

12. In what year did you begin teaching in THIS school?

If your assignment at this school has included a break in service of one year or more, please report the year that you returned to this school from your most recent break in service.

0145 1 9 ☐ ☐

SECTION C – TEACHER TRAINING

MAJOR AND MINOR FIELD OF STUDY CODES FOR QUESTIONS 15, 17, 18, 19, AND 20

EDUCATION FIELDS

General education

01 Pre-elementary/early childhood education
03 Elementary education
04 Secondary education

Subject area education

07 Agricultural education
11 Art education
13 Bilingual education
15 Business, commerce, and distributive education
89 Crosscultural education
22 English education
23 English as a second language
24 Foreign languages education
29 Home economics education
88 Indian education (Native American)
30 Industrial arts, vocational and technical, trade and industry education
34 Mathematics education
38 Music education
40 Physical education/health education
43 Reading education
45 Religious education
46 Science education
48 Social studies/social sciences education

Special education

67 Special education, general
68 Emotionally disturbed
69 Mentally retarded
70 Speech/language impaired
71 Deaf and hard-of-hearing
72 Visually handicapped
73 Orthopedically impaired
74 Mildly handicapped
75 Severely handicapped
76 Specific learning disabilities
77 Other special education

Other education

78 Curriculum and instruction
79 Educational administration
80 Educational psychology
81 Counseling and guidance
82 Other education

GENERAL FIELDS

06 Agriculture and natural resources
86 American Indian studies (Native American)
87 Other area and ethnic studies
08 Architecture and environmental design
10 Art, fine and applied
14 Business and management
16 Communications and journalism
17 Computer and information sciences
19 Drama, theater
20 Engineering
21 English (literature, letters, speech, classics)
25 General studies
27 Health professions and occupations
28 Home economics
85 Humanities
31 Law
32 Library science
33 Mathematics
35 Military science
36 Multi/interdisciplinary studies
37 Music
39 Philosophy
41 Psychology
42 Public affairs and services
44 Religion, theology

Foreign languages

51 French
52 German
53 Latin
54 Russian
55 Spanish
56 Other foreign languages

Natural sciences

57 Biology/life science
58 Chemistry
59 Geology/earth science
60 Physics
61 Other natural sciences

Social sciences

62 Economics
63 History
64 Political science and government
65 Sociology
66 Other social sciences
84 **All others**

SECTION C – TEACHER TRAINING – CONTINUED

15a. Do you have a bachelor's degree?

0170 1☐ Yes
2☐ No

GO to item 18a, page 12.

b. What was your major field of study?
Record the two-digit field code from the list on page 10 and the field name.

0175
Code
Major field

c. In what year did you receive your bachelor's degree?

0180 1 9

d. Did you have a second major field of study?

0185 1☐ Yes
2☐ No

GO to item 15f.

e. What was your second major field of study?
Record the two-digit field code from the list on page 10 and the field name.

0190
Code
Second major field

f. Did you have a minor field of study?

0195 1☐ Yes
2☐ No

GO to item 16a.

g. What was your minor field of study?
Record the two-digit field code from the list on page 10 and the field name.

0200
Code
Minor field

16a. What is the name of the college or university where you earned your bachelor's degree?

0205
(Office use only)
Name of college or university

b. In what city and state is it located?

0210
(Office use only)
City
State

0215 1☐ Located outside United States

SECTION C – TEACHER TRAINING – CONTINUED

17a. Do you have a second bachelor's degree?

0220
1 ☐ Yes
2 ☐ No

GO to item 18a.

b. What was your major field of study?

Record the two-digit field code from the list on page 10 and the field name.

0225 ☐☐ ______________________

Code Major field

c. In what year did you receive your second bachelor's degree?

0230 1 9 ☐☐

18a. Do you have a master's degree?

0235
1 ☐ Yes
2 ☐ No

GO to item 20a, page 13.

b. What was your major field of study?

Record the two-digit field code from the list on page 10 and the field name.

0240 ☐☐ ______________________

Code Major field

c. In what year did you receive your master's degree?

0245 1 9 ☐☐

19a. Do you have a second master's degree?

0250
1 ☐ Yes
2 ☐ No

GO to item 20a, page 13.

b. What was your major field of study?

Record the two-digit field code from the list on page 10 and the field name.

0255 ☐☐ ______________________

Code Major field

c. In what year did you receive your second master's degree?

0260 1 9 ☐☐

SECTION C – TEACHER TRAINING – CONTINUED

20a. Do you have any other type of degree?

0265 1☐ Yes
2☐ No

GO to item 21a, page 14.

	b. What other degrees have you earned? *Mark (X) all that apply below.*		**c. What was your major field of study for each degree?** *Record the two-digit field code from the list on page 10 and the field name.*		**d. In what year did you receive each degree?**
0270	1☐ Associate degree	0275	☐☐ Code ______ Major field	0280	1 9 ☐☐
0285	1☐ Educational specialist or professional diploma (at least one year beyond master's level)	0290	☐☐ Code ______ Major field	0295	1 9 ☐☐
0300	1☐ Doctorate or first professional degree (Ph.D., Ed.D., M.D., L.L.B., J.D., D.D.S.)	0305	☐☐ Code ______ Major field	0310	1 9 ☐☐

Notes

SECTION C – TEACHER TRAINING – CONTINUED

TEACHING ASSIGNMENT FIELD CODES FOR QUESTION 21

General

01	Prekindergarten
02	Kindergarten
03	General elementary

Special areas

86	American Indian/Native American studies
10	Art
12	Basic skills and remedial education
13	Bilingual education
17	Computer science
18	Dance
19	Drama/Theater
21	English/Language arts
23	English as a second language
26	Gifted
28	Home economics
16	Journalism
33	Mathematics
35	Military science
37	Music
39	Philosophy
40	Physical education, health
43	Reading
44	Religion
47	Social studies/Social science (including history)

Foreign languages

51	French
52	German
53	Latin
54	Russian
55	Spanish
56	Other foreign language

Science

57	Biology/Life science
58	Chemistry
59	Geology/Earth science/Space science
09	Physical science
60	Physics
61	General and all other science

Vocational-technical education

05	Accounting
06	Agriculture
14	Business, marketing
27	Health occupations
30	Industrial arts
49	Trade and industry
50	Technical
83	Other vocational/technical education

Special education

67	Special education, general
68	Emotionally disturbed
69	Mentally retarded
70	Speech/Language impaired
71	Deaf and hard-of-hearing
72	Visually handicapped
73	Orthopedically impaired
74	Mildly handicapped
75	Severely handicapped
76	Specific learning disabilities
77	Other special education

84 All others

21a. What is your MAIN teaching assignment at this school, that is, the field in which you teach the most classes?

Record the two-digit code from the list above and the field name. If your teaching schedule is divided equally between two fields, record either field as your main assignment, mark (X) in box 1, and report the other field in item 21c.

0315 ☐☐ ______________________________

Code Main assignment field

0320 1☐ Teaching assignment equally divided between two fields

b. Do you teach classes in OTHER fields at this school?

0325 1☐ Yes

2☐ No → ***GO to item 22a, page 15.***

c. In what field do you teach the second most classes?

Use codes listed above.

0330 ☐☐ ______________________________

Code Other assignment field

SECTION C – TEACHER TRAINING – CONTINUED

22a. Do you have a teaching certificate in this state in your MAIN teaching assignment field?

0335
1☐ Yes
2☐ No → ***GO to item 23a.***

b. What type of certificate do you hold in this field?

Mark (X) only one box.

0340
2☐ Advanced professional certificate
3☐ Regular or standard state certificate
4☐ The certificate offered in your state to persons who HAVE COMPLETED what the state calls an "alternative certification program"
5☐ Provisional or other type given to persons who are still participating in what the state calls an "alternative certification program"
6☐ Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period)
7☐ Temporary certificate (requires some additional college coursework and/or student teaching before regular certification can be obtained)
8☐ Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching)

c. In what year were you certified in your main teaching assignment field by this state?

0345 1 9 ☐☐

23a. Do you have a teaching certificate in this state in your OTHER teaching assignment field at this school?

0350
0☐ Not applicable; I do not have a second teaching assignment field → ***GO to item 24a, page 16.***
1☐ Yes
2☐ No → ***GO to item 24a, page 16.***

b. What type of certificate do you hold in this field?

Mark (X) only one box.

0355
2☐ Advanced professional certificate
3☐ Regular or standard state certificate
4☐ The certificate offered in your state to persons who HAVE COMPLETED what the state calls an "alternative certification program"
5☐ Provisional or other type given to persons who are still participating in what the state calls an "alternative certification program"
6☐ Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period)
7☐ Temporary certificate (requires some additional college coursework and/or student teaching before regular certification can be obtained)
8☐ Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching)

c. In what year were you certified in this field by this state?

0360 1 9 ☐☐

SECTION C – TEACHER TRAINING – CONTINUED

31. **Since the end of last school year, have you participated in any in-service or professional development programs which focused on the following topics?**

a. **Uses of educational technology for instruction (e.g., use of computer, satellite learning)**

0590 1☐ Yes – **How many hours did the program last?** → 0595 1☐ 8 hours or less
2☐ No
2☐ 9–32 hours
3☐ More than 32 hours

b. **Methods of teaching your subject field**

0600 1☐ Yes – **How many hours did the program last?** → 0605 1☐ 8 hours or less
2☐ No
2☐ 9–32 hours
3☐ More than 32 hours

c. **In-depth study in your subject field**

0610 1☐ Yes – **How many hours did the program last?** → 0615 1☐ 8 hours or less
2☐ No
2☐ 9–32 hours
3☐ More than 32 hours

d. **Student assessment (e.g., methods of testing, evaluation, performance assessment)**

0620 1☐ Yes – **How many hours did the program last?** → 0625 1☐ 8 hours or less
2☐ No
2☐ 9–32 hours
3☐ More than 32 hours

e. **Cooperative learning in the classroom**

0630 1☐ Yes – **How many hours did the program last?** → 0635 1☐ 8 hours or less
2☐ No
2☐ 9–32 hours
3☐ More than 32 hours

35a. **During your first year of teaching, did you participate in a formal teacher induction program, i.e., a program to help beginning teachers by assigning them to master or mentor teachers?**

Do not include student teaching.

0700 1☐ Yes
2☐ No

b. **Are you currently a master or mentor teacher (i.e., a teacher who provides guidance and assistance for beginning teachers) in a formal teacher induction program?**

Do not include supervision or training of student teachers.

0705 1☐ Yes
2☐ No

SECTION D – CURRENT TEACHING LOAD

36. In what grade levels are the students in your classes at THIS school?

Mark (X) all that apply.

0710 1☐ Ungraded
0715 1☐ Prekindergarten
0720 1☐ Kindergarten
0725 1☐ 1st
0730 1☐ 2nd
0735 1☐ 3rd
0740 1☐ 4th
0745 1☐ 5th
0750 1☐ 6th
0755 1☐ 7th
0760 1☐ 8th
0765 1☐ 9th
0770 1☐ 10th
0775 1☐ 11th
0780 1☐ 12th
0785 1☐ Postsecondary

NOTE: The following questions request information on classes you taught ***at THIS school*** *during your* ***most recent full week*** *of teaching (i.e., the last week when school was in session for 5 full days and you taught your normal schedule).*

37. Which of these categories best describes the way your classes at this school are organized?

Mark (X) only one box.

0790 1☐ DEPARTMENTALIZED INSTRUCTION – You teach subject matter courses (e.g., biology, history, typing) to several classes of different students all or most of the day. → ***GO to item 39, page 22.***

2☐ ELEMENTARY ENRICHMENT CLASS – You teach only **one subject** (such as art, music, physical education, computer skills) in an **elementary** school → ***GO to item 41a, page 24.***

3☐ SELF-CONTAINED CLASS – You teach multiple subjects to the same class of students all or most of the day

4☐ TEAM TEACHING -- You collaborate with one or more teachers in teaching multiple subjects to the same class of students

5☐ "PULL-OUT" CLASS – You provide instruction (e.g., special education, reading) to certain students who are released from their regular classes.

GO to item 38a, page 21.

Notes

SECTION D – CURRENT TEACHING LOAD – CONTINUED

38a. At THIS school, how many students were enrolled in the class or program you taught during your most recent FULL WEEK of teaching?

If you teach two kindergarten or prekindergarten sessions per day, or two or more pull-out classes, report the average number of students.

0795 ____________ Students

b. During your most recent FULL WEEK of teaching, approximately how many hours did you spend teaching each of these subjects at THIS school?

If you taught two or more subjects at the same time, apportion the time to each subject as best you can.

Report hours to the nearest whole hour; do not record fractions or minutes.

If you did not teach a particular subject during the week, mark (X) the "None" box.

(1) English/Reading/Language arts

0800 0☐ None or ________ Hours per week

(2) Arithmetic/Mathematics

0805 0☐ None or ________ Hours per week

(3) Social studies/History

0810 0☐ None or ________ Hours per week

(4) Science

0815 0☐ None or ________ Hours per week

→ ***GO to item 42a, page 24.***

Notes

SECTION D – CURRENT TEACHING LOAD – CONTINUED

NOTE: Answer items 39 and 40 ONLY if you taught subject matter (departmentalized) courses to different groups of students, i.e., you marked box 1 for item 37 on page 20.

39. During your most recent FULL WEEK of teaching, how many separate classes (or sections) did you teach AT THIS SCHOOL?

Do not include:

- Homeroom periods
- Study halls
- Classes taught at any other school

If you teach two or more classes of the same subject (e.g., algebra I) to different groups of students at this school, count them as separate classes.

EXAMPLES:

(1) If you teach chemistry to two classes of students and physics to two classes of students, you would report 4 classes.

(2) If you teach English III to four classes of students and journalism to one class, you would report 5 classes.

(3) If you teach drama to one class of students at this school and English IV to three classes of students at another school, you would report 1 class.

0820 ________ Classes (or sections)

SUBJECT MATTER CODES FOR QUESTION 40a

Vocational education

01 Agriculture
02 Business, marketing
03 Industrial arts
04 Health occupations
05 Vocational home economics
06 Trade and industry
07 Technical
08 Accounting/bookkeeping
09 Shorthand
10 Typing
11 Career education
12 Other vocational education

English/Language arts

21 Literature
22 Composition/journalism/creative writing
23 Reading
24 English as a second language
25 Other English/language arts courses

Foreign languages

31 French
32 German
33 Latin
34 Russian
35 Spanish
36 Other foreign language

Mathematics

41 General mathematics
42 Business math
43 Algebra, elementary
44 Algebra, intermediate
45 Algebra, advanced
46 Geometry, plane/solid
47 Trigonometry
48 Analytic geometry/math analysis
49 Probability/statistics
50 Calculus
51 Other mathematics

Computer science

52 Computer awareness/applications
53 Computer programming
54 Other computer science

Natural science

61 General science
62 Biology/life science
63 Chemistry
64 Physics
65 Geology/earth science/space science
66 Other physical science
67 Other natural science

Social science

70 Social studies
71 History
72 World civilization
73 Political science/government
74 Geography
75 Economics
76 Civics
77 Sociology/social organization
78 Other social science

Visual and performing arts

81 Arts and crafts
82 Filmmaking/photography
83 Chorus
84 Band
85 Drama/theater/dance
86 Music
87 Other visual/performing arts

Other areas

91 Driver education
92 Health
93 Nonvocational home economics
94 Philosophy
95 Physical education
96 Psychology
97 Religion
98 Other courses not elsewhere classified

SECTION D – CURRENT TEACHING LOAD – CONTINUED

NOTE: Answer items 41a–c below, only if you marked "Elementary enrichment class" (box 2) in item 37 on page 20.

41a. What is the total number of students enrolled in all the classes you teach at THIS school?

0975 ____________ Students

b. How many times per WEEK does each class usually meet?

If your classes have alternating schedules, e.g., 3 times one week and 2 times the next, mark the box for the most times a class would meet in one week.

Mark (X) only one box.

0980
1☐ Once
2☐ Twice
3☐ Three times
4☐ Four times
5☐ Five times
6☐ More than 5 times

c. During your most recent FULL WEEK of teaching, how many separate classes (or sections) did you teach?

Count each group of students that you taught as a class. For example, if you taught P.E. to 4 classes of first graders, 3 classes of second graders, 3 classes of third graders and 2 classes of fourth graders, you would report 12 classes.

0985 ________ Classes

42a. How many hours were you required to be at this school during your most recent FULL WEEK of teaching?

Report in whole hours, not fractions or minutes.

If you teach at more than one school, report only the hours required for THIS school.

0990 ________ Hours per week

b. During your most recent full week, how many hours did you spend AFTER school, BEFORE school, and ON THE WEEKEND on each of the following types of activities?

Report in whole hours.

(1) School-related activities involving student interaction (e.g., coaching, field trips, tutoring, transporting students)

0995 0☐ None or ________ Hours per week

(2) Other school-related activities (e.g., preparation, grading papers, parent conferences, attending meetings)

1000 0☐ None or ________ Hours per week

SECTION E – PERCEPTIONS AND ATTITUDES TOWARD TEACHING – CONTINUED

47. **Do you agree or disagree with each of the following statements?**

		Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. Teachers in this school are evaluated fairly.	1195	1 ☐	2 ☐	3 ☐	4 ☐
b. The principal lets staff members know what is expected of them.	1200	1 ☐	2 ☐	3 ☐	4 ☐
c. The school administration's behavior toward the staff is supportive and encouraging.	1205	1 ☐	2 ☐	3 ☐	4 ☐
d. I am satisfied with my teaching salary.	1210	1 ☐	2 ☐	3 ☐	4 ☐
e. The level of student misbehavior (e.g., noise, horseplay or fighting in the halls, cafeteria or student lounge) in this school interferes with my teaching.	1215	1 ☐	2 ☐	3 ☐	4 ☐
f. Teachers participate in making most of the important educational decisions in this school.	1220	1 ☐	2 ☐	3 ☐	4 ☐
g. I receive a great deal of support from parents for the work I do.	1225	1 ☐	2 ☐	3 ☐	4 ☐
h. Necessary materials (e.g., textbooks, supplies, copy machine) are available as needed by the staff.	1230	1 ☐	2 ☐	3 ☐	4 ☐
i. The principal does a poor job of getting resources for this school.	1235	1 ☐	2 ☐	3 ☐	4 ☐
j. Routine duties and paperwork interfere with my job of teaching.	1240	1 ☐	2 ☐	3 ☐	4 ☐
k. My principal enforces school rules for student conduct and backs me up when I need it.	1245	1 ☐	2 ☐	3 ☐	4 ☐
l. The principal talks with me frequently about my instructional practices.	1250	1 ☐	2 ☐	3 ☐	4 ☐
m. Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes.	1255	1 ☐	2 ☐	3 ☐	4 ☐
n. Most of my colleagues share my beliefs and values about what the central mission of the school should be.	1260	1 ☐	2 ☐	3 ☐	4 ☐
o. The principal knows what kind of school he/she wants and has communicated it to the staff.	1265	1 ☐	2 ☐	3 ☐	4 ☐
p. There is a great deal of cooperative effort among the staff members.	1270	1 ☐	2 ☐	3 ☐	4 ☐
q. In this school, staff members are recognized for a job well done.	1275	1 ☐	2 ☐	3 ☐	4 ☐
r. I have to follow rules in this school that conflict with my best professional judgement.	1280	1 ☐	2 ☐	3 ☐	4 ☐

SECTION E – PERCEPTIONS AND ATTITUDES TOWARD TEACHING – CONTINUED

47. **Continued**

Do you agree or disagree with each of the following statements?		Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
s. **I am satisfied with my class sizes.**	1285	1☐	2☐	3☐	4☐
t. **I make a conscious effort to coordinate the content of my courses with that of other teachers.**	1290	1☐	2☐	3☐	4☐
u. **Goals and priorities for the school are clear.**	1295	1☐	2☐	3☐	4☐
v. **The amount of student tardiness and class cutting in this school interferes with my teaching.**	1300	1☐	2☐	3☐	4☐
w. **I sometimes feel it is a waste of time to try to do my best as a teacher.**	1305	1☐	2☐	3☐	4☐
x. **I plan with the library media specialist/librarian for the integration of library/media services into my teaching.**	1310	1☐	2☐	3☐	4☐
y. **Library/media materials are adequate to support my instructional objectives.**	1315	1☐	2☐	3☐	4☐

56. **Are you male or female?**

1525
1☐ Male
2☐ Female

57a. **What is your race?**
Mark (X) only one box.

1530
1☐ American Indian or Alaska Native (Aleut, Alaska Indian, Yupik, Inupiat)
2☐ Asian or Pacific Islander (Japanese, Chinese, Filipino, Korean, Asian Indian, Vietnamese, Hawaiian, Guamanian, Samoan, other Asian)
3☐ Black
4☐ White
→ ***GO to item 58.***

b. **Are you enrolled in a state or federally recognized tribe?**

1535
1☐ Yes
2☐ No

58. **Are you of Hispanic origin?**

1540
1☐ Yes
2☐ No

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